

# RESOURCE CONSERVATION AND RECOVERY ACT AMENDMENTS OF 1991

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## HEARINGS BEFORE THE SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION OF THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE ONE HUNDRED SECOND CONGRESS FIRST SESSION

ON

**S. 976**

A BILL ENTITLED THE "RESOURCE CONSERVATION AND RECOVERY  
ACT AMENDMENTS OF 1991"

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JULY 31; SEPTEMBER 11, 12, 13, and 17, 1991

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**PART 2**

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# RESOURCE CONSERVATION AND RECOVERY ACT AMENDMENTS OF 1991

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WEDNESDAY, JULY 31, 1991

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION,  
Washington, DC.

## PACKAGING AND LABELING

The committee met, pursuant to notice, at 1:30 p.m. in room 406, Dirksen Senate Office Building, Hon. Max Baucus [chairman of the subcommittee] presiding.

Present: Senators Baucus and Lautenberg.

## OPENING STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA

Senator BAUCUS. Today's hearing will focus on two issues that form a direct link between the interests of consumers and the environment: product packaging and environment labeling. In one sense, they may be the most visible component of this legislation. On the one hand, packaging has become a symbol of waste, shorthand for our solid waste problems. But environmental labeling also can become a powerful tool to help solve our waste problems.

Every day each of us throws out about four pounds of trash, or 1,500 pounds a year. One-third of this, some 500 pounds per person—that is over 40 million tons cumulatively—is packaging waste.

Some packaging, of course, is very useful—even necessary. It can help keep food fresh and our products from breaking. But in many cases packaging is not necessary. For instance, single-serving packages now so popular today satisfy our desire for convenience, but at a large increase in the amount of packaging. In fact, it seems that some packages are more important than the products, themselves. We have all seen examples.

Despite commitments from the recording industry to reduce packaging, compact disk packages, for example, are often twice the size of the disk, itself. I wonder how necessary this really is.

Expensive soaps are often packaged in plastic or paper containers, which are then covered by more plastics or more paper.

During our hearings on this bill I have repeatedly stressed the importance of minimizing waste, not only as a conservation ethic, but because it is good economics. One way to foster this concept is through a program to reduce excess packaging.

Then there is the issue of design for recycling. Many packages and products are not designed in a way to encourage recycling. Plastics can be recycled, but often not easily, partly because the plastics recycling business is in its infancy, but also because there are so many different plastics used in the same container. Once they are combined, because they are different, they are hard to separate, making recycling difficult.

Paper, on the other hand, is generally considered easier to recycle than plastics; however, envelopes with plastic windows and magazines with gummed mailing labels can make paper recycling much more difficult.

Therefore, another of our goals must be to encourage better product and packaging designs like single resin plastics or labels pre-printed on magazine covers. Some national magazines are already heading in this direction, and they deserve credit and encouragement.

A related problem is that many products and packages use toxic chemicals that are harmful to consumers and interfere with recycling. Some chemicals found in products or packaging, like cadmium and mercury, destroy recycling equipment or prevent recycling altogether, and some chemicals may find their way from the products and packages into the environment.

Thus, a third goal must be to reduce the use of toxic materials used in products and packages. The question is: how do we achieve this? How do we ensure that safe and more easily recycled products find their way into commerce?

One way is to mandate designs that specify the size, the materials, and other details of the product or package, but that approach does not seem warranted. That is why the solid waste legislation that I introduced does not use the heavy-handed government interference; instead, it allows industry experts on their own to develop safer products and packages. Moreover, it provides incentives to those efforts by updating Federal procurement policies.

Perhaps the greatest yet untapped way to achieve these goals is to use the market power of environmental labeling.

We are on the verge of what may be the best opportunity of this environmental era to use the marketplace to respond to our environmental awareness by rewarding the right choices. Many talk about using the free market to achieve environmental objectives. Environmental labeling may be the surest way to use the free market, particularly since many companies see a marketing benefit to products that are so labeled.

The problem is that currently there are no rules for making such claims. Manufacturers can use terms that have little or no meaning and mislead consumers. All one has to do is say that the product is "environmentally safe" or "recyclable" or "degradable" or "compostable" or invent a new term. One can even print an environmental label with inks that are toxic.

Today there are hundreds of products that include some kind of green label. Consumers often can't tell which product is best for the environment. It is very hard for them to make an intelligent choice.

But one thing is clear: consumers want to buy products that are safe for the environment. I believe businesses want to make envi-

ronmental claims for their products. We must find a way to make sure that businesses own up to the claims they make to consumers.

One way to do this is to require companies making an environmental claim adhere to a specific set of criteria. Only in this way can we prevent the use misleading terms and fraudulent claims, and only in this way can we ensure that consumers will be able to make intelligent product choices.

Beyond this, we must also use environmental labeling to encourage innovation. Terms like "environmentally friendly" or "environmentally safe" should mean that the product is safe in all phases of its life, from its raw materials on through to its disposal. It should mean that the product is produced with state-of-the-art environmental technology, and only those products that meet such criteria should be allowed to make such broad claims.

Today we will hear from experts in packaging and experts in labeling. I look forward to hearing their comments, and especially their suggestions to how we can address these issues.

I'd like now to turn to Senator Lautenberg, who has a very important bill which bears particularly on labeling.

#### OPENING STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator LAUTENBERG. Thank you very much, Mr. Chairman.

I would like to offer my commendation to you for these hearings.

We are taking on a form of pollution today, Mr. Chairman—advertising pollution.

Before I go further, I'd like to welcome Hubert Humphrey, III—better known to those of us who know him as Skip—the Attorney General from Minnesota. I'm pleased to see him here and recall, for a moment, the great and distinguished record that his father had in this body. We're pleased to see Skip Humphrey following on in the distinguished record of the Humphrey family, committed to public service. We welcome you.

We all realize the effect that environmental labeling can have on consumers. Poll after poll shows that consumers would pay more for environmentally safe products and packages, and manufacturers are responding.

According to Market Intelligence Service, environmentally friendly labeled products constituted 4.5 percent of all new product introductions in 1989, and 9.2 percent in the first half of 1990. That's a rapidly accelerating pace. Back in 1985, "friendly" products made up only one-half of 1 percent of all new products.

Today consumers are bombarded with products claiming to be safe for the environment, but, unfortunately, some of these claims are misleading. And without standards for these claims, it is impossible for consumers to know which claims they can rely on.

We are getting environmentally confused consumers, and this puts manufacturers who are making significant product or package improvements at a disadvantage when they compete with those who aren't making those improvements. We need to create a framework to protect the consumer, to protect industry, and to protect the environment.

We need to provide incentives to make products and packages environmentally beneficial. We need to create a level playing field for manufacturers. We need to prevent claims by those who fail to upgrade their products and packaging. And we need to establish standards by which consumers can measure these claims. In sum, we need to eliminate advertising pollution. That's what S. 615, the Environmental Claims Marketing Act, is intended to do.

It requires EPA, the agency with the environmental expertise, to establish standards for environmental marketing claims.

I am particularly pleased that Attorney General Humphrey will be our lead-off witness. He has led a major effort to establish standards for environmental claims.

The Green Report, which was written by a task force of State attorneys general, is one that he chaired. It is the leading work in the area of environmental claims, and S. 615 is modeled on the Green Report. I'm pleased that we'll have a chance to discuss it directly with Attorney General Humphrey.

We also will hear about efforts to reduce the amount of packaging, as the chairman mentioned, and levels of toxic material in packaging. Packaging makes up 30 percent of our solid waste stream, and it can contain toxic materials which can harm our environment when disposed of.

CONEG—Counsel of North East Governors—has taken the lead in addressing these problems. They developed model legislation to reduce the toxic metals in packaging, which I have introduced as S. 730, the Reduction of Metals in Packaging Act. CONEG also has developed model packaging guidelines to be used by industry on a voluntary basis.

The chairman's RCRA bill includes a provision that would establish a packaging advisory board which would develop guidelines along the lines of the CONEG guidelines. I applaud CONEG for its efforts and look forward to hearing later from Mr. Ferretti, who will be representing CONEG.

Mr. Chairman, the labeling and packaging provisions we are going to be considering today have the potential to reduce the environmental impact of the products and packages we buy. They are an essential element of our RCRA effort. It is wonderful to visualize a prospect in which the consumer can reach over to the shelf, know that the retailer is participating, and know that they can do something about the environment in a truly painless way. We think this is a good way to handle the issue. We are pleased to be able to work with Senator Baucus on these issues as we consider the RCRA legislation.

Thank you very much.

Senator BAUCUS. Thank you very much, Senator. I'm glad you have begun to introduce Attorney General Humphrey.

I want to mention that Senator Chafee is unable to attend today's hearing and has asked that his statement be included in the record.

[Senator Chafee's statement follows:]

OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

I would like to thank the Chairman of this subcommittee, Senator Baucus, for scheduling this hearing, one of a series of hearings on the reauthorization of the Resource Conservation and Recovery Act. Today we will focus on products and packaging, and environmental labeling. These two separate but related issues, taken together, can have a profound impact on our ability to reduce the size of the municipal solid waste stream.

In our desire for convenience and expediency, we have created the disposable and throwaway society. Razor blades, utensils, cups, plates, even cameras, are now disposable. Packaging for our products is not an insignificant part of either our economy or the waste stream. According to the Office of Technology Assessment, we spent an estimated \$55 billion on packaging in 1986. When discarded, this packaging constitutes fully a third of the municipal solid waste stream.

Achieving reductions in the amount of packaging is not an easy task. There is no simple formula which will eliminate excessive packaging. For example, the use of plastic wrap and food bags helps decrease food spoilage, which reduces the generation of food waste from households. Sharply reducing the use of this packaging could inadvertently increase overall solid waste. Banning one form of packaging, such as plastic, could result in the use of heavier substitution material, and increase transportation costs. A recent West German study estimated that replacing plastic with other materials would increase the weight of packaging by a factor of 4, the volume by a factor of 2.5, and use of energy during production by a factor of 2. All of these impacts must be considered in developing a workable approach to reducing products and packaging in the waste stream.

But there is also good news with regard to packaging. Many companies have already embarked on ambitious plans to reduce and recycle packaging. For example, Proctor and Gamble, in previous testimony before this committee, indicated that it is using recycled plastic in some of its containers, and is offering Downy fabric softener in concentrated form to reduce packaging. Coca Cola is experimenting with a two liter container which contains 25 percent recycled plastic.

Also, a study undertaken by researchers at the Massachusetts Institute of Technology and Geoffrey Lomax of the National Environmental Law Center, (one of our witnesses today) concludes the following:

"A detailed analysis of packaging materials and packaging design reveals that, using currently available technology, the packaging industry has the ability to reduce reuse and recycle its products." The report goes on to offer practical suggestions to help industry accomplish these goals.

I would also like to turn your attention to environmental labeling: As concern for the environment has increased on the part of the American public, there are some indications that consumers are attempting to use their purchasing power to buy products which are friendly to the environment. Unfortunately, as companies have attempted to supply products to respond to this new demand, many have employed environmental advertising claims which are misleading and/or confusing.

Although environmental advertising claims address a broad range of environmental attributes (i.e., degradability, ozone friendly, etc.) recycling is an area of particular concern. The uncertainty created by the lack of commonly accepted definitions and standards and the inconsistency resulting from a variety of state laws and regulations have limited the expansion of recycling, both by confusing the public as to what products really are recycled, and by limiting the private sector's willingness to invest in the manufacturing capacity required to utilize recovered materials.

Currently there are several approaches which purport to bring accuracy and uniformity to environmental labeling:

1) Industry guidelines proposed by the National Food Processors Association and other companies and trade associations in a petition to the FTC.

2) The "Green Report" prepared by 10 state attorneys generals which discusses and advocates basic principles for responsible environmental advertising.

3) State labeling requirements recommended by the Northeast Recycling Council (NERC) and mandatory labeling programs in Rhode Island, New York and California.

4) Federal legislative proposals to establish national labeling programs, including a proposal by Senator Lautenberg (S.615).

5) The use of independent certifying agents to validate environmental labeling claims (such as Green Cross).

As we evaluate the relative pros and cons of these approaches, it is important to bear in mind the goals of a national labeling program. These goals should include:



the development of uniform national, and possibly international, labeling standards; protection of consumers from confusing and misleading information and deceptive advertising; protection of the environment by providing information to consumers about the recycled content or recyclability of a product or package; and protection of the environment and conservation of natural resources by providing incentives to manufacturers to use recycled or recyclable materials.

Many important questions remain, including:

- Do we need standard definitions for "recycled content" and "recyclable" and other key terms

- what information should be required to be disclosed on a product/package and whether or not threshold levels should be set for labeling products/packages as "recycled"

- to what degree should national labeling and marketing requirements be established for the use of otherwise undefined or unqualified terms and symbols

- What is the proper relationship between Federal and state environmental labeling and marketing requirements and whether or not Federal standards should preempt existing statute.

The witnesses we have assembled today will provide us with a full and informed discussion on this important subject. Thank you again, Mr. Chairman, for convening this hearing.

Senator BAUCUS. I want to thank you for coming today, and I first want to apologize to all of our witnesses for the inconvenience that we have caused you. As you well know, we scheduled this hearing for 11:00 and had some difficulty this morning in attending to committee business during the preceeding markup session. I apologize on behalf of all of the committee for any inconvenience that we may have caused all of you.

It is an honor to have you here, Skip.

I might tell you, as well as other witnesses, that we have a five-minute rule here. Your statements will all be included in the record. When the light is green, keep talking. When it is yellow, you might think about winding down—that will be the final minute. When the red is on, I'd advise that discretion is the better part of valor.

Before hearing your statement I might note that, as I looked at your statement, down in the right-hand corner you say it is printed on recycled paper. I know you'll tell us whether that is 100 percent, or what percent that is, as we get into the labeling.

Mr. HUMPHREY. Mr. Chairman, I'm embarrassed to tell you that we have done an analysis on our "recycled" paper, which is a requirement for use in our State. We have found that it does not have the kind of content that we want, and we are in the process of letting new bids out for that.

Senator LAUTENBERG. You're talking about the literary content?

Mr. HUMPHREY. I certainly hope that the literary content will be recycled.

Senator BAUCUS. Well, I commend you on at least diligently checking and improving upon the physical content. I don't worry at all about the intellectual content.

Please go ahead.

**STATEMENT OF HUBERT H. HUMPHREY, III, ATTORNEY GENERAL, STATE OF MINNESOTA AND CHAIRMAN, ENVIRONMENT AND ENERGY COMMITTEE, NATIONAL ASSOCIATION OF ATTORNEYS GENERAL, ACCOMPANIED BY JAMES JACOBSON, ASSISTANT ATTORNEY GENERAL**

Mr. HUMPHREY. Thank you very much, Mr. Chairman and Senator Lautenberg. It is a pleasure to be here.

I have asked to join with me at the table Mr. Jim Jacobson, who is Assistant Attorney General with our office in the Consumer Division, and has worked closely with the eleven-state task force, so that he might be available also for any questions that you might have with regard to the report.

Senator BAUCUS. Thank you.

Mr. HUMPHREY. It is, indeed, a pleasure to be here to address this subcommittee on one of the most important and urgent issues facing consumers across this Nation. Of course, that is the issue of environmental marketing that has been eloquently addressed by the members of the committee.

Let me begin my remarks first by commending Senator Lautenberg and his cosponsor, Senator Lieberman, for their outstanding leadership in this area. In my view, the Senator's bill, the Environmental Marketing Claims Act, offers a long-term, comprehensive framework for addressing the issue of environmental marketing.

On behalf of the National Association of Attorneys General, which has adopted a resolution in favor of this legislation, I am here today to voice the association's full support for this legislation.

It is important to note at the outset that the issue of environmental marketing is more than just a marketing issue. In fact, environmental marketing involves the most serious environmental and solid waste disposal problems now confronting this Nation.

Environmental marketing also involves a whole new sense of environmental responsibility from the consumer. For any number of reasons, you and I want to do the right thing when it comes to dealing with the environment, and we are acting on that sense of responsibility in the marketplace, in the grocery and retail stores, as we make our choices as consumers.

I serve presently as the Chair of the Environmental Protection Committee of the National Association of Attorneys General, and I have recently served as the vice chair of the Consumer Protection Committee. As the Senator pointed out, this issue involves a coming together of these two points of environmental and consumer concerns. I believe that we must move quickly in addressing the environmental marketing movement to capture the positive power of this new economic democracy.

Our challenge as a Nation, of course, is to ensure that consumers receive accurate and reliable information about the environmental attributes of the products they buy so that they can play an even more meaningful role in helping to solve our serious environmental concerns.

As you may know, for nearly two years an eleven-state task force has been grappling with the environmental marketing, or with what we would call the "green revolution."

Now, the word "revolution" perhaps is a strong one, but I believe, at least here, it is not an overstatement. In fact, in all of my years as a consumer advocate and as an enforcer of State consumer laws I have never seen a marketing movement anything like this one. It started and is fueled by ordinary citizens demanding environmentally responsible products.

However, the green revolution is now veering off course. Instead of providing meaningful environmental information, many of the claims contain nothing more than misleading and confusing buzzwords such as "environmentally friendly" or "biodegradable" or "ozone safe" or "recyclable." Some of these claims are pure fiction.

Diapers claim to be degradable, even though they are buried in landfills where they do not degrade. Aerosol products claim to be environmentally safe, even though they contain harmful pollutants.

In short, some companies are painting their products green not because it is good for the environment but, instead, because it simply sells. For consumers, this amounts to green-collar fraud, and we can't allow this kind of fraud to undermine the vast potential of the green revolution.

This past May the eleven-state task force issued its Green Report II, which recommends our guidelines for marketers to follow in making green claims about their products. At the same time, the task force also has exercised its enforcement powers against several companies. We are continuing to investigate a variety of misleading environmental claims even at this date.

The bill before this subcommittee, the Environmental Marketing Claims Act, provides the long-term national framework that is needed for governing environmental claims and ensuring that the green revolution stays on course. In short, this bill creates a national marketing program which will ensure that consumers are armed with accurate and meaningful information about the environmental properties of the products that they buy.

I support this legislation; however, I must also point out that I believe the Federal Trade Commission, as well as the EPA, must be involved in enforcing environmental marketing requirements of this bill.

Since the FTC is the primary Federal agency with expertise and knowledge in the area of marketing and advertising, the Federal Trade Commission's involvement in enforcing the law is essential.

Of course, it is also vitally important that States continue to retain their traditional authority to take action against marketers making deceptive and misleading environmental claims about their products.

I commend Senator Lautenberg for protecting the States' traditional police powers to regulate their marketplace, and for recognizing the important role that the States must continue to play in protecting their citizens from abuses by marketers making inaccurate and deceptive environmental claims.

Frankly, Mr. Chairman, there is more than enough work for Federal and State enforcers in this area.

Finally, if I may just say, a couple of weeks ago I testified before the FTC and called on the commission to adopt interpretive guidelines as quickly as possible to provide guidance to marketers. In my

view, the FTC guides are essential as an immediate first step. In the long term, however, Senator Lautenberg's legislation provides the type of permanent resolution and solution that is sorely needed to help secure our Nation's environmental future.

Mr. Chairman, I appreciate the opportunity to come before you to support this legislation and to see that Federal action is taken in this arena. It is terribly important. It is important for business, it is important for the environment, it is important for consumers, it is important for the whole country.

Senator BAUCUS. Thank you very much, Mr. Humphrey.

As the State of Minnesota's chief law enforcement officer, I'd just like your views on enforcement.

The CONEG proposal, as I understand it, sets up certain provisions which States can adopt, and if States do so then the State would enforce the provisions.

You mentioned urging the FTC, a Federal agency with experience, to adopt some standards. I take it that if the FTC were to act that then there would be appropriate Federal enforcement provisions if a company did not adhere to the FTC regulations.

You also suggested Senator Lautenberg's bill as a follow-on. As you know, under Senator Lautenberg's bill the EPA would be primarily charged with developing these more precise standards. I noticed in your statement you do not favor Federal preemption. I'm wondering how we put all this together here in a coherent structure so that not only consumers know what these terms mean, whether they reside in one State or another—and particular when products are very much in interstate commerce—but also so that manufacturers know what they must do to comply.

We have all these various ideas—CONEG, FTC, EPA. The fourth issue is whether to preempt or not to preempt. So, from a State's chief law enforcement official, what do you think makes most sense for Minnesota consumers and manufacturers, as well as consumers and manufacturers generally?

Mr. HUMPHREY. Thank you very much, Mr. Chairman, for that question. I firmly believe that national standards, and a framework within which enforcement can take place of national standards, are needed to protect the national marketplace. Companies, whether they are in Minnesota or any place else, are selling not just in the State, but throughout the region and throughout the Nation, and probably internationally. Therefore, I think the framework of national standards is the best framework from which to work.

Now, if you take a look at the structure you described it might sound confusing, but, in fact, traditionally there has been a joint enforcement policy involving the States and the Federal Government. Even as we speak, the Federal Trade Commission and the States—particularly our eleven-state task force—are working jointly together. We parallel our investigations. We have Federal enforcement of consumer protection laws, as well as State enforcement.

If I understand Senator Lautenberg's bill correctly, there will be the opportunity, once there are standards in place, for States to enforce those standards. That, in my view, is an effective use of the limited enforcement resources that government at all levels have. I think that the combined effort would be an important step in the

environmental marketing area, and iwould recognize traditional that have been played on the State and Federal levels in this area.

I'm sure you are well aware of the EPA's willingness to allow certain States that meet standards to do enforcement actions of their own laws. This will give us that opportunity.

Senator BAUCUS. I understand that. The question in my mind, though, is the appropriateness of preemption in this area. I can see it in many areas, as well it should be. For example, I think it does make sense for a local municipality to know how many liners to have in a landfill, depending upon the geology in that specific site. That does make sense under RCRA generally for States to have more stringent standards if they so choose.

But when it comes to labeling products, particularly containers, that are so much in interstate commerce, and particularly labels that are so vague right now—I don't think anybody in the world knows what recyclable means. How many times? One time? One hundred times? What does "compostable" really mean, and what does "biodegradable" really mean? Go on down the list. What in the world does "environmentally safe" mean? "Environmentally friendly" is even more vague.

These are vague terms, as it is. The States have traditional authority to protect the health and safety of its citizens. When it comes to labeling of products and interstate commerce, aren't we doing our consumers and our citizens a disservice if different States have different standards as to what each of these terms mean?

You also have to remember that most folks aren't going to call up the relevant State agency or the U.S. Attorneys Office of the consumer counsellor to find out what in the world this is. They just want the assurance. This is basically recyclable, so they have a basic sense that it is, in fact, recyclable whether they buy it in Minnesota or whether they buy it in Montana.

Mr. HUMPHREY. Well, Mr. Chairman, that's why our task force report calls for Federal guides. We believe that there would be an impact that would allow States to conform with the National initiatives that are taken without having to visit the issue of preemption.

As I am certain you are aware, when preemption is discussed it raises a bogey that people have to divert their energies from. Frankly, we need all of the resources both at the State level, as well as the Federal level, to deal with enforcement, as well as establishing Federal standards.

Let me just give you one other example that would reflect why some diversity should be allowed.

Obviously, every one of us understands the difference in California pollution standards versus the National pollution standards, and because of that we probably have cleaner air.

We have a similar situation just with regard to disposable diapers. Maybe in Minnesota if you want to be most environmentally sound you should go out and have your diapers cleaned every day and reuse them. If we used all of those reusable diapers in Southern California, what impact would it have on the water resources that are very limited there?

Those are the kinds of issues within our country that require some degree of diversity. But with regard to the labeling standards,

we believe that national guides and the long-term standards that would be developed out of this bill could be very, very helpful. With regard to enforcement, we do not believe that preemption—

Senator BAUCUS. The California standards are not quite what most people think. As you well know, with the Clean Air Act Congress did provide several years ago—and provided again last year in the 1990 Clean Air Act amendments—that California may have more stringent auto tailpipe standards if California so chooses. However, as you well know, no other State may do so unless that State adopts the same California standards.

So, in a sense, we have two sets of standards—the National Clean Air Act and the California. And, as you well know, many States are now adopting the California standards.

So, if you want to apply that analogy, maybe we could suggest we look at the State that has the tightest labeling standards, and other States could then adopt that State's higher standards if they so choose. But the reason we did not allow States in the Clean Air Act to themselves adopt different standards was because the automobile industry didn't know what in the world car to produce.

I can tell you one of the big issues between the House and the Senate in the Clean Air Act was the so-called "third car problem." The auto industry was afraid it was going to have to produce a "third car"—not only the Federal car and the California car, but a third car. We resolved that by saying other States can adopt California, but they basically have to enforce the California standards in the same way California enforces the California standards.

Anyway, my time is up. We can come back to this later.

Senator Lautenberg.

Senator LAUTENBERG. Thank you very much, Mr. Chairman.

New Jersey and other New England States are now considering adopting the California standard, and there is some analogy, I think, between the requirements that we have in clean air and what we are trying to do here. On the other hand, fortunately, there is perhaps a much better marketing and distribution network available to product manufacturers, I think, than to the automobile industry, which is so much involved in constant interstate movement of their.

Attorney General, I wanted to, lest we get confused here, straighten out the focus on FTC in addition to EPA, because I think we are going to hear from our friends at National Food Processors that the FTC standard is sufficient to adopt for environmental marketing guidelines.

You made it quite clear, I think, but I'd like the record to reflect that your recommendation for FTC involvement is transitory and in transition, for one thing, and enforcement for the other. You're not proposing, are you, that they have the technical expertise to define or to develop the environmental marketing claims, are you?

Mr. HUMPHREY. My own view is that the expertise probably lies with the EPA.

Senator LAUTENBERG. Right.

Mr. HUMPHREY. And that's where the long-term—

Senator LAUTENBERG. That's our view, and it is reflected in the bill.

When we establish our guidelines, I think you agreed with my own comment, which says that we also have to be concerned with the promotion of sound environmental policy, as well as taking care of the consumer deception or confusion.

It is said by NFPA, if I can give them an acronym, that requirements in S. 615, our bill, may be stifling for innovation and environmental change. Do you see that as a condition resulting from our bill?

Mr. HUMPHREY. Well, I don't believe that is necessarily true. Let me first of all say, Mr. Chairman and Senator Lautenberg, that I think there is a lot of agreement between ourselves and the food processors and others in the business community. There is a lot of agreement. While there are some differences in kind, as you may see in our written commentary, we have provided you to our comments on petitions that were submitted before the Federal Trade Commission—there is also a lot of common ground.

I do not see that the development of those standards, those longer-term goals, would necessarily stifle that innovation. In fact, it may very well be the kind of thing that would drive the innovation.

I believe there was a Scientific American editorial commentary a couple of months ago that indicated some nations that had developed environmental standards actually now lead in environmental technology because of those standards that drove the technological development.

Senator LAUTENBERG. Your Green Report recommendations are quite consistent with what we have in S. 615. We have your endorsement.

Mr. HUMPHREY. Yes.

Senator LAUTENBERG. And I think it is important to note, also, that our recommendation is voluntary compliance. Once a manufacturer or distributor or originator of a product makes a claim, they are held to that standard, but they need not do it. If they want to be the skunk at the lawn party and put up a product that makes no claim—my reference. "Skunk at the lawn party" is not in the bill. But if they choose not to involve themselves in this marketing claim, they are free not to do so, of course. We are not requiring it, and there is no suggestion of law enforcement to make them do that.

But if they do make the claim, then you are concerned about the States' ability to enforce these claims and make sure that the standards that have been developed—Federal standards—are minimally met and are, in fact, real when they are claimed.

So I think that we are consistent all the way here. I'm happy to have the attorneys general group join us in this. I think that we have a chance to do something truly revolutionary—not to overuse the expression. You used it before—that would engage the consumer, the customer, in the process of protecting the environment.

We need not reach 100 percent of the marketplace to have a significant impact. We're not going to do that. There is going to be some confusion, and we hope that whatever input we develop as a result of the hearings process will help us eliminate as much confusion as possible.

Perhaps once the law is in place—which I hope it will be—we'll find that some changes are needed for more convenience or easier comprehension, but we want to do that.

I think the main thing is to make sure that when a claim is made on a label that it is honest. If it says "compostable" and the area in which it is being sold has no composting facilities, that doesn't do a lot of good. We have to be concerned with the regional or State capacity to deal with them. Again, complicating factors, but nevertheless the objective I think is one worth fighting for.

Thank you very much for being with us today.

Thanks, The CHAIRMAN.

Senator BAUCUS. Thank you very much, Senator.

I have one question I want to ask you, Skip, and that's about monitoring.

Your view as to the usefulness of independent third parties—can they play a useful role here?

Mr. HUMPHREY. I think they could, Senator. I really do.

Senator BAUCUS. Do you have any experience in Minnesota, by chance?

Mr. HUMPHREY. The key that we are concerned about is having some means of independently verifying the claims that are being made. Now, obviously, the second part—and another alternative to that—is the enforcement mechanism, the case-by-case approach.

Senator BAUCUS. Right.

Mr. HUMPHREY. But as individuals are making claims, I think an independent monitor would be helpful—at least some third party looking at the claim that is being made.

Senator BAUCUS. Thank you very much for coming, and also for you and the attorneys general trying to come up with a solution to this whole problem. Your contribution here has been very helpful.

Thank you again for sharing your thoughts with us.

Mr. HUMPHREY. Thank you very much. I appreciate that.

Senator BAUCUS. Thank you.

The next panel consists of four people: Deborah Becker, Vice President of Environmental Affairs with Kraft General Foods from Glenview, Illinois; Ms. Linda Brown, Vice President of Green Cross Certification from Oakland, California; Dr. Richard Denison, Senior Scientist for EDF; and Rajeev Bal, President of Webster Industries, from Peabody, Massachusetts.

Ms. Becker, you are first.

**STATEMENT OF DEBORAH A. BECKER, VICE PRESIDENT, ENVIRONMENTAL AFFAIRS, KRAFT GENERAL FOODS, INC., ON BEHALF OF NATIONAL FOOD PROCESSORS, GLENVIEW, ILLINOIS**

Ms. BECKER. Thank you, Mr. Chairman.

My name is Deborah Becker, and I'm Vice President of Environmental Policy for Kraft General Foods, the largest food company in the United States.

We produce some 2,500 products marketed in a wide variety of packages, and I'm very pleased today to testify on the behalf of National Food Processors Association.



Like this subcommittee, NFPA and its members want to ensure accurate and non-misleading environmental claims, along with contributing to solutions to environmental problems, particularly solid waste.

That's why in February of this year NFPA, together with ten industry trade associations, petitioned the Federal Trade Commission to issue national environmental marketing guidelines. Broad support for FTC guidelines was expressed at the recent FTC environmental marketing hearings that were held in response to our petition and other submissions to the agency.

There was nearly unanimous agreement at these hearings on three things: FTC guidelines are needed, they will remove deceptive claims from the marketplace, and they will stimulate environmental innovation by driving consumer purchasing decisions with truthful environmental information.

Absent FTC guidelines, more and more States are likely to pass conflicting laws and regulations, further stifling effective communication to consumers about environmental attributes of products and packaging.

Environmental communication is absolutely critical to encouraging marketplace-driven environmental solutions.

FTC guidelines will force the needed national consensus on environmental marketing. The State Attorney General's Task Force report also recognizes the importance of national marketing to our economy and to our way of life.

FTC guidelines and the leadership of State Attorney General Humphrey, who you just heard from, and others, will result in consistency among the States.

I'd now like to turn to S. 976 and S. 615 specifically.

S. 976 would affect our industry in many ways, and my comments today will focus on packaging and environmental marketing.

The proposed products and packaging advisory board is at complete odds with our consumer-driven market economy, and it is based on a false presumption that packaging is at the core of the solid waste problem.

American businesses know all too well that consumer needs must be incorporated into consumer products or they do not survive in the market. Consumers' impact on the market is direct and immediate, like the influence of voters on government.

Government interference with the marketplace, even through advisory standards, will slow progress. Companies will have no incentive to go beyond the government standards. And it is market-driven solutions that will spawn greater creativity and more environmentally-beneficial results.

Two other provisions of S. 976 concern us: the proposal for commodity-specific recycling standards, which would require recycled content if recycling rates are not achieved; and recycled content requirements which would be imposed for food sold to the government.

We emphasize mandatory recycled contents are not the answer to solid waste problems and, most emphatically, they are not the answer when it comes to food packaging under any circumstances.

Designing food packaging is much more than just a question of availability of material. The safety and wholesomeness of food

must be assured. Mr. Chairman, food safety cannot be risked—not on solid waste reduction efforts. Not ever.

Recycled content requirements fail to address both regulatory and technical limitations of recycled packaging. Specifically, these requirements fail to address the functional properties of the recycled material to adequately protect food from physical damage and spoilage, the purity properties of recycled packaging materials to assure that they do not impart off-odors or off-flavors or have any adverse chemical interactions with food, and purity properties to comply with FDA regulations.

We are very concerned by any proposal which would undermine the Food and Drug Administration's longstanding and successfully-employed authority over food packaging and food safety. The FDA has years of experience in packaging-related food safety issues, reflected in nearly an entire volume of the Code of Federal Regulations.

The safe use of recycled material in glass food bottles and jars, steel cans, and aluminum beverage cans, as well as paper packaging for dry food applications, has been achieved under FDA's watchful eye. FDA's careful and expert hand should continue to be the primary guardian of food safety as solid waste-driven packaging innovations continue to occur.

As an example of this, FDA is providing input to a joint NFPA-Society of Plastics Industry Research Group which is working to develop methods and guidelines for the safe use of recycled plastics and food packaging.

Turning now to S. 615, the proposal to give EPA authority over environmental claims is inappropriate.

The prescriptive requirements to make environmental claims and the proposed pre-approval process would stifle innovation and positive environmental change. For example, if a company has no ability to make recyclable claim, it will not compete on the basis of this environmental characteristic. Information regarding the ability to recycle a package will not reach the marketplace, and the consumers will assume incorrectly that many products and packages cannot be recycled, when the truth is they can be.

Senator BAUCUS. I'm going to have to ask you to think about winding down, Ms. Becker.

Ms. BECKER. Yes. I have one more paragraph.

Senator BAUCUS. I hope that it is a short paragraph.

Ms. BECKER. Yes, it is.

In closing, as I stated, FTC guidelines will provide flexibility for companies to make a variety of truthful and nondeceptive claims. Consumers will benefit from environmental information in the marketplace, and the pressure will stay on for companies to be part of the environmental solutions.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you.

Ms. Brown.

#### STATEMENT OF LINDA BROWN, VICE PRESIDENT, GREEN CROSS CERTIFICATION, OAKLAND, CALIFORNIA

Ms. BROWN. Thank you for inviting us today.

I would like to begin briefly by describing the Green Cross Certification Company, to give some perspective to our comments.

We launched this program in the spring of 1990 as the first national, not-for-profit effort to independently certify manufacturer claims of environmental achievement.

Our initial efforts were geared toward recognizing state-of-the-art industry accomplishments in specific claim areas such as recycled content. Our long-term goal has been to develop sound, scientific protocols for identifying companies and products that represent the best overall choices for the consumer and for the environment.

In the last year, we verified claims for more than 400 consumer products manufactured by some 80 companies, and we have also turned down a lot of companies who have come to us for certification.

During this same period, we have also been active with major retail organizations in this country. As Senator Lautenberg mentioned earlier, retailers play a very critical role. They are the link to the consumer, and our job in working with retailers is to help them understand, as well, the claims that they are getting involved with.

Our testimony here draws on our experiences in the field.

First, in answer to your most important question, we do believe there is an urgent need for Federal legislation to regulate environmental labeling claims. Whether or not the Federal Trade Commission issues guidelines or sticks to case-by-case rulemaking, companies making legitimate environmental marketing claims deserve a clear mandate from our elected officials in Congress, supported by the expertise of the Environmental Protection Agency.

Legislation must inspire, not stifle, progress. In this area, we feel that Senator Lautenberg's bill is a very important step in the right direction.

We also feel that there are certain areas in which the bill could be strengthened, and so we have prepared some draft language which we would like to submit for the record. I'll touch on a few of those points.

One example: we believe the time has come to move beyond simple distinctions between pre- and post-consumer waste. As it turns out, some pre-consumer waste is less valuable, and therefore more likely to be discarded into the waste stream than some post-consumer waste. More sophisticated definitions are needed now—definitions that look at how much of the material is being recovered, how difficult it is to reprocess, and how much is currently being recycled.

Another critical area, as you have mentioned, is the need for independent verification of claims. There is a lot at stake here. The environment is not a marketing gimmick; it is our future and it is the future of our children. But if we don't have adequate protections, including the verification of claims in this area, environmental marketing could easily become a gimmick and lose all credibility with the consumer.

Without credible verification mechanisms, I fear that a lot of time and money will be spent chasing down green-collar fraud. From our own vantage point, I can tell you, and reiterate what Mr.

Humphrey said earlier, that for all of the good work that is being done, we do see examples of abuse, as well.

Some companies may resist the idea of having independent verification. Nobody likes to have an outsider come in and see what's going on. But in the long run we feel that verification will help to ensure that companies with legitimate claims get the market share recognition and the marketplace recognition that they deserve.

We feel strongly that all environmental claims should be as specific as possible. Pretty green labels, which we have all seen, and soothing statements which give simple thumbs-up, thumbs-down, environmentally friendly promises to the consumer not only fail to inform the consumer, but they play on consumer ignorance.

Some people think that consumers are stupid. Some people think that consumers are smarter than we give them credit for being. But it doesn't really matter if they are stupid or they are smart. It doesn't matter what you believe, because it is the consumer that must ultimately be informed, the consumer who will ultimately decide what direction industry goes.

We believe the best hope is to engage the consumer with information that doesn't sink to the lowest common denominator of intelligence, but challenges the consumer to participate in the process with knowledge and with information.

Finally, I want to address the issue of eco-labels that you have raised and lifecycle analysis. This is a term that a lot of people use and few people understand. It refers to a very comprehensive science for analyzing the full environmental impacts associated with industrial processes in the production of consumer products. The science is complicated because industrial processes are complicated.

It is a very interesting science. We can't go into it here today. But we feel, on our researching this subject, that it is truly the only credible, scientific methodology capable of considering all of the important environmental questions. Every other method we have looked at falls into a trap—the trap of substituting arbitrary value judgments for thorough evaluation and real data.

The problem with systems that rely on a limited number of arbitrarily-chosen criteria in the award of eco-labels is that it involves value judgments. There are invariably important environmental issues that get left out. For example, in the steel industry, to increase the levels of recycled steel there may be trade-offs in the energy that is used to create that. So do you want more recycled content, or do you want more energy burden on the environment? We have to really look at the trade-offs. No other scientific methodology we have seen allows for that other than a lifecycle process.

I'd like to thank you for giving us the opportunity again to let you know that we did prepare some draft language.

Senator BAUCUS. Thank you, Ms. Brown. We look forward to looking at that.

Mr. Denison.

**STATEMENT OF DR. RICHARD DENISON, SENIOR SCIENTIST,  
ENVIRONMENTAL DEFENSE FUND**

Dr. DENISON. Thank you, Mr. Chairman and Senator Lautenberg.

My testimony today is on behalf not only of EDF, but also three other environmental organizations—Environmental Action Foundation, NRDC, and the Sierra Club.

We all believe strongly that the Federal Government needs to act as soon as possible to reign in advertising pollution. We also believe that this will require the joint efforts of the Federal Trade Commission, Congress, and EPA.

In addition to the Federal Trade Commission's role in enforcement and in issuing guidance, we believe that EPA needs to be directed by Congress through legislation such as S. 615 to develop and enforce standards for key terms used in environmental claims that will not only prevent deception, but will also promote sound environmental policy. That linkage is very critical.

We heartily endorse S. 615 today and offer our comments on its benefits, but we do not believe that it, in and of itself, is sufficient to achieve the needed increases in demand for and production of environmentally-preferred products and packaging.

While this effort helps to set many of the ground rules, other measures will clearly be needed.

There is, nevertheless, an urgent need for Federal action on environmental claims. The green market clearly offers a potentially powerful, market-driven force for environmental improvement, but harnessing that market mechanism can only work when consumers have accurate and reliable information about the products that they buy.

Unfortunately, the willingness of some manufacturers to make misleading claims threatens the green market because consumers act on environmental information they see on packaging and in advertising.

Only by ensuring that the market provides accurate information, therefore, and a level playing field for manufacturers, can the balance be tipped toward real environmental gains.

Governmental intervention in this case is essential to ensure the accuracy and reliability of claims.

Contrary to those that would argue that regulation of environmental claims unnecessarily impedes the free market, we would argue that enforcement and regulatory activity in this area is actually necessary to ensure that the market works properly. The Federal Government need have no hesitation about vigorously regulating in this area.

We support S. 615 because we believe it will provide clear, technically-based standards and definitions that will both prevent consumer deception and promote environmental policy measures that are sound. We also believe that the FTC guideline approach is necessary but not sufficient. Let me explain briefly our reasons.

EDF believes that many terms used in environmental claims need an official definition that consumers can grow to rely on. In the absence of such definitions, terms are defined in a way that serves the self interest of the person defining the term. Let me work through a quick example to show you why EPA needs to be involved.

Promoters of degradable plastics have defined that term in a manner that refers to laboratory tests that have no relationship to the real world, nor to what consumers believe that term to mean.

Now, the FTC could—and certainly should—insist that a claim of degradability be qualified by referring to a particular waste management method in which the seller can document that degradation occurs. But the environmental expertise and the environmental policy mandate of EPA is necessary to factually identify in what context degradability is actually an advantage and to specify the technical definition or the technical specifications of degradability in that environment.

EPA also needs to decide whether the advantages of degradable plastics might not be outweighed by disadvantages such as their interference with recycling. That's a policy question that has to be arbitrated by an agency with an environmental policy mandate.

There is a very strong analogy in this area that I think cannot be overlooked, and that has to do with the role of the Food and Drug Administration in regulating nutritional claims. In this area, there are many parallels. Nutritional claims, like environmental claims, are difficult for consumers because they can essentially have no verification of those claims independent of what they receive from government. For this reason, we believe that the analogy of giving EPA concurrent regulatory authority with FTC is a very strong one and should be pursued.

Let me wind up by just talking about two brief considerations that deal with provisions in S. 615 that we think are very important.

With respect to recycled content, that bill refers to what is a very important component and clearly is a reflection of consumer understanding of the term, namely, that the term should primarily be used in an unqualified context to refer only to post-consumer materials. Our written testimony provides documentation of the fact that consumers construe that term to mean post-consumer, not general, recycled content.

In the area of recyclability and degradability or compostability, it is also critical to go beyond a mere measure of these that refers to technical capability and acknowledges the feasibility and economic questions that must be addressed in deciding whether something is truly recyclable or compostable. S. 615, in our view, sets the framework for doing that.

I would like to end there and offer our assistance to the committee as it continues to consider this important issue.

Thank you.

Senator BAUCUS. Thank you very much, Dr. Denison.

Mr. Bal.

#### **STATEMENT OF RAJEEV G. BAL, PRESIDENT, WEBSTER INDUSTRIES, PEABODY, MASSACHUSETTS**

Mr. BAL. I want first of all to thank you, Mr. Chairman, for holding these hearings and inviting us to participate.

I am Raj Bal, President of Webster Industries. We are a \$150 million manufacturer of high-recycled content plastic trash bags and merchandise bags. We currently recycle over 50 million pounds of polyethylene each year, about one quarter of which is post-consumer waste.

Our "RENEW" trash bags contain over 80 percent recycled content, as verified by independent third parties.

Our prepared statement has been submitted for the record, although today I want to address three broad issues in our oral comments: first of all, the need for Federal legislation; secondly, the need for national, uniform, and consistent definitions; and, finally, the need for minimum content standards for recycled content claims.

Consumers have clearly shown a preference for so-called "green" products. More than two-thirds of consumers in recent polls expressed a desire to buy recycled products. The marketplace has responded with a tremendous outpouring of environmental claims. Initially, these claims were often vague and meaningless, and sometimes misleading—whether intention or not—because of a lack of simple, common definitions and standards nationwide.

These environmental claims have confused and often disillusioned the most powerful force in our economy, the consumer. In a recent Gallup poll, three-quarters of consumers are skeptical of green claims, and nearly half of them in another study dismissed all environmental claims as gimmickry.

This consumer skepticism, coupled with the multitude of regional and local legislation and a lack of national standards and definitions, has provided little impetus for business to invest in new environmental technologies and processes. We clearly need national environmental labeling legislation now so that we can rebuild consumer confidence and harness consumer buying power to solve environmental issues.

The second area I want to discuss addresses the need for consistent and uniform definitions for environmental terms, used nationwide. I truly believe most major consumer products companies are honorable and do not intentionally want to mislead consumers. However, given a total lack of national definitions, unintentional misrepresentation can easily occur. Let me give you an example.

This is a box of our "RENEW" brand of trash bags. It contains 80 percent recycled plastics, as verified by Green Cross, an independent third party. I know it has less than a 20 percent virgin content in this product. However, depending on varying definitions for recycled content regionally, the claim would change to either:

- 20 percent recycled post-consumer product, because it contains 20 percent post-consumer materials; or,
- if the definition of recycled materials was more narrowly defined to be limited to household waste, we would have to make a claim of 5 percent recycled household waste, which really is a meaningless level; or,
- another option would be 20 percent post-consumer and 60 percent pre-consumer; or,
- 20 percent recycled and 60 percent recovered materials, as defined by the Attorneys General.

Clearly, we can only make one claim, and we can only make one claim nationwide.

Given the highly political and legal profile of the environmental claim arena, it is often easier, safer, and cheaper for manufacturers to stay on the sidelines and not make truly pro environmental

products, or certainly not make claims. This is clearly not a long-term solution. We need a common, national set of definitions.

The final area I want to address involves the need for tough minimum recycled content standards. For us as a society to do a good job in recycling, we need to create uses for recycled materials. Minimum content requirements would help create these markets and help close the loop from successful collection and cleaning of wastes to recycling them into usable end products.

Finally, I'd like to address a somewhat controversial issue related to national standards and definitions, and this deals with preemption.

First of all, we clearly believe that there should be national standards preempting the States. However, a possible compromise could involve States having to use national definitions and labeling requirements, but have the option of having higher regional recycled content standards. Ideally, one higher standard would be established and States would pick the minimum national level or the higher alternative. Your Clean Air Act example would hold here.

In conclusion, we are primarily involved in recycling, but we think it is important to recognize that the solid waste problem cannot be solved by recycling alone. It needs a total integrated solution.

Thank you, Mr. Chairman, for this opportunity.

Senator BAUCUS. Thank you, Mr. Bal.

I'd like to generally ask the last three to respond to Ms. Becker's statement that standards like the type required in Senator Lautenberg's bill will stifle innovation. I think that was basically her statement. I'd like the other three of you—whoever wants to—to react to that statement.

Mr. BAL. I would argue the opposite because, from an entrepreneurial standpoint, having standards levels the playing field and will actually encourage entrepreneurially addressing the problem.

Senator BAUCUS. Expand a little more. What kind of entrepreneurial activity.

Mr. BAL. If we had clear-cut definitions as to what recycled content includes—whether industrial wastes are included, whether post-consumer wastes are solely limited—we could develop recycling systems to recover wastes from the waste stream that aren't being addressed today.

Senator BAUCUS. Does anybody else want to respond?

Dr. DENISON. I would just point to one provision in the bill that applies to recycled content, as well as recyclability or compostability, and that is the ratcheting up of the standard over time. To me, that is a critical feature inspiring improvements in products and practices and by no means would stifle innovation. In fact, it would provide a strong incentive for industry to try harder as time progresses.

I would also refer back to what Senator Lautenberg indicated, which is that this is a voluntary compliance, if you will. It simply says if you are going to make claims you need to meet these standards. That does provide a strong incentive for improvement. It does not bar from the marketplace a product that did not meet those standards.



Ms. BROWN. I would just like to make a statement about something that Rich has just mentioned, which is an important issue in setting standards.

I think government standards work very well in inspiring entrepreneurs, as Mr. Bal has said, when they establish minimum level playing fields.

I think there is a difficulty, although it is certainly a well-intentioned process, when we get into ratcheting up standards. There is a difference between setting minimum guidelines, which can be very effective in helping everyone know what the level playing field is, and trying to set higher or better standards through government policy, because industry state of the art doesn't follow calendars or predictable patterns and pathways. So by saying that the level is going to be 30 percent in 1993 and 50 percent in 1995 and so forth, that type of approach doesn't necessarily inspire the progress.

Companies who can't reach those levels may feel like we're not going to bother to try, we are nowhere near that, our industry isn't capable of doing that, the technology doesn't exist. Or, on the other side, we can already beat that. It doesn't matter. We're way above that as it is, so why should we bother to install the technologies to be at 100 percent if the standard is only calling for 50 percent?

I think that those attempts to set higher standards through government regulations can have counterproductive results. I think government standards used as minimum guidelines for companies can be very productive in establishing this level playing field so that everyone knows coming in what the expectations are.

Senator BAUCUS. But if it is quite low, then there is no incentive for companies to try to do a better job.

Ms. BROWN. There is a very important issue that is coming out here, and that is this question that there really are two standards that exist in practice. That is, I think, a defacto way for businesses to proceed, understanding that they have to meet minimum government guidelines.

But there is a second tier. Again, that second tier, that higher level of performance, is impossible to predict. It is the state of the art of industry. It is something that industries develop, as technologies develop, as competitive forces encourage companies to invest in research and technology because they want to be the best.

So there do need to be mechanisms for recognizing the best performance, as there also need to be mechanisms for ensuring that people are at minimum levels.

Senator BAUCUS. Yes.

Ms. BROWN. I believe that the private sector and independent verification systems provide an appropriate mechanism for recognizing higher standards of performance. I think what is problematic is if we try to put those into calendar frameworks where we have expectations that may or may not reflect reality.

Senator BAUCUS. I understand your concern. I'm hearing two different ideas to help companies be the best. One is the so-called California standards—adopt the highest State standard that Mr. Bal and I discussed. That's one option, it seems to me. Another is down a different road and just say "Company, you indicate what percent of this is recycled." If it is 50 percent, 75 percent, or 80 per-

cent, it's up to you. You just say what you think it is. What is your reaction to either of those two approaches?

Ms. BROWN. For a company to—number one, I completely agree that any claim that is made should be as specific as possible. So, with respect to your second situation, no matter what happens, a company should specify that it is 80 or 50. These statements that are made, "Box made from recycled content" where you don't know if it is 0 or 100, are very confusing.

I think, again, that it is important to set down minimum guidelines, to say that companies—if you set the standard at 10 percent post-consumer, or however you set that standard, the tells companies this is what we minimally have to achieve. Beyond that, I think that you can encourage developments beyond that level in other ways, in ways that are consistent with the marketplace forces that perhaps Ms. Becker was referring to.

Senator BAUCUS. I am going to have her respond now. What about this, Ms. Becker? Ms. Brown says if you set these specified amounts on a calendar basis it is really out of step with reality. Different companies are in different stages of development. Some are more aggressive than others, etc. I suggested two different approaches. What is your response?

Ms. BECKER. I think there are a few things that are pertinent here. First of all, the toughest standards that can be set are from our competitors.

Senator BAUCUS. From what?

Ms. BECKER. Are from our competitors in the marketplace. We really believe that marketplace solutions will help drive the answer to a lot of the solid waste problems.

By having a national, uniform approach through FTC guidelines that will provide the ability for us to make truthful and non-deceptive claims that consumers can understand, we believe that will, in fact, help drive marketplace innovation for solid waste solutions.

We believe that there needs to be the flexibility to meet the changing innovations that companies are making, and also to meet the changing level that consumers have in terms of knowledge and awareness on environmental issues.

None of those things can be frozen in time. This is one of the most rapidly-evolving and changing areas. As everyone here has stated, environmental marketing and environmental claims can help drive solutions to the solid waste problem.

Senator BAUCUS. I think everyone agrees on the same goals. We're just trying to figure out a way to make this happen.

Ms. BECKER. Right.

Senator BAUCUS. I think Ms. Brown is a little more precise on how she thinks one could make this happen. I hear you being a little vague. What mechanisms are more likely, not only to drive technology and reward companies who do, but allow consumers reasonable assurance as to what it is they are buying?

Ms. BECKER. We still believe that setting FTC guidelines will allow truthful and non-deceptive claims. That is only one layer of the way that it can work.

You would then have secondary kinds of enforcement that would be in addition to that. If that was adopted as a model for national uniformity across the Nation, the attorney generals in the States

could also adopt things in concert with that. And we also have a self-regulatory process in the United States that is very effective, and that—

Senator BAUCUS. So you are against preemption?

Ms. BECKER. We believe that the issuance of guidelines—and we are fully aware that guidelines are not a preemptive kind of mechanism—that national uniformity and having a level playing field is essential for us to be able to market across the entire United States. But there is also a role for the States and for the self-regulatory process to play in the whole issue of solving environmental solutions.

Senator BAUCUS. What about my idea of requiring companies to state the percent of content that is recycled material—50 percent, 70, or 100—if they want to? What's wrong with that?

Ms. BECKER. We believe that if the claim is truthful and non-deceptive that it would be fine.

Senator BAUCUS. Is that a better approach than either the FTC and/or EPA saying, "OK. Recycled means 50 percent"? A fixed percentage by a certain date.

Ms. BECKER. Well, first of all you have to remember that under our FTC guides that we have petitioned, the recycled content percent would be disclosed. That is considered a safe harbor under our FTC guidelines. We do believe that kind of a claim is the kind of claim that could be made.

Senator BAUCUS. And you think that's a better approach?

Ms. BECKER. We believe that having flexible guidelines in order to meet the innovative changes and the changing level of consumer knowledge to encompass all of those things without fixing the knowledge or the innovation time is the best approach.

Senator BAUCUS. Just for the record—this is a broad question—do you or do you not favor preemption on the labeling and/or packaging?

Ms. BECKER. Not at this time.

Senator BAUCUS. You do not?

Ms. BECKER. We would like national uniformity with Federal leadership in the area so that we would all have a fair, level playing field, but that there is a role for the States and for self-regulatory processes.

Senator BAUCUS. If you don't favor preemption, isn't that Federal Government interference with the marketplace?

Ms. BECKER. Excuse me?

Senator BAUCUS. Wouldn't that be Federal Government interference with States?

Ms. BECKER. If there was Federal leadership in the area—we believe strong Federal leadership that the FTC would issue in terms of guidelines—that would help forge the National approach that the States could then help follow.

Senator BAUCUS. This panel is supposed to be basically on labeling, but you mentioned packaging issues. Do you really believe that some of the packages that are produced in this country can't, for the sake of our solid waste disposal problem in this country, be reduced in size, or content can be a little bit different to help us solve this problem? Take these CD disk players. I, for the life of me, can't understand why there is so much plastic and so much stuff

around the disk as there is. Is there a reason, other than a marketing reason?

Ms. BECKER. There are many reasons for the way products are put into the marketplace.

Senator BAUCUS. I'm talking about CD packaging right now.

Ms. BECKER. I am here representing the food industry, so I'm not sure that I can specifically comment on CDs. But it is——

Senator BAUCUS. OK. Let's take plastic bottles. Is there any reason in the world why one plastic bottle has to have a certain resin and another one a different resin?

Ms. BECKER. Yes. There absolutely is.

Senator BAUCUS. What is the reason?

Ms. BECKER. I would be more than happy to give a lengthy description for the record, but——

Senator BAUCUS. Well, what's an unlengthy reason?

Ms. BECKER. Every plastic material has functional properties that protect that food product and are optimized for possible light interferences, oxidation properties, microbiological properties, the ability to seal the package properly, the ability to put modified atmosphere and to provide the shelf life. Every plastic resin has very specific properties to protect and maintain the safety of that food and is designed very specifically with that in mind.

Most all of the time we look for the package that we can use the least amount of material with consistent with food safety and maintaining the safety of the food supply. I can only reemphasize again, without getting into the law of chemistry, that each resin does have very specific functional properties and chemical properties to protect the product that is has in it.

Senator BAUCUS. OK. Well, let me just ask the question more precisely.

Ms. BECKER. But if you were——

Senator BAUCUS. Let's take PVCs and PET bottles.

Ms. BECKER. Yes.

Senator BAUCUS. What do PVC bottles usually contain—what product?

Ms. BECKER. What do PVC bottles usually contain?

Senator BAUCUS. Yes. What product, generally?

Ms. BECKER. Oil bottles. Basically oil.

Senator BAUCUS. Oil?

Ms. BECKER. Yes.

Senator BAUCUS. OK. What about PET?

Ms. BECKER. Two-liter soda bottles, specifically, and some salad dressings now. You also find very new, innovative technologies, as, for instance, with the Heinz ketchup bottle, where they were able to remove some of the adhesives between the PET and still provide the oxidation properties for their ketchup bottle.

Senator BAUCUS. The thrust of your testimony is that this committee shouldn't have anything to do with this subject, let the FDA worry about it because it is a food safety issue. And you also said that packaging is not at all a problem and has nothing to do with the solid waste disposal problems in our country. That's basically what you said.

Ms. BECKER. Well, packaging, as everyone here has stated, is part of our solid waste. It is 31.6 percent. But it is only 31.6 percent.

From a food perspective, packaging actually reduces the amount of waste that goes to our landfills. Again, we do have data on that. But it physically provides protection to the food so that there is less spoilage in transportation, and also from the prospect that manufacturers at their sites can take the byproducts from food manufacturing after the packaging operation and recycle or reuse that and turn it into animal feed where, for instance, if consumers didn't have—

Senator BAUCUS. I understand the problem, but you are stating the problem and I'm trying to find a solution. I'm just suggesting the solution is, as is contained in the bill, an advisory board composed of representatives of industries and environmental groups, etc. to try to find some solutions to these problems. It will address not only the health and safety aspects, which are very valid, but also some of the land disposal problems because we have so much of this stuff around, which is also a problem that needs to be addressed.

We have two choices here: we try, or we do nothing. That's assuming that packaging is part of the solid waste disposal problem, and I think that it is. If you take my premise and my assumption—that is, that it is part of the problem—therefore, it has to be part of the solution.

Ms. BECKER. That's right. And I'm—

Senator BAUCUS. And I'm just suggesting—and I'm glad to hear you say that it is part of the problem.

Ms. BECKER. It is definitely part of the problem. But only part of the problem.

Senator BAUCUS. Therefore, I'm a little bit surprised why you are opposed to a voluntary solution. These boards do not set mandatory packaging regulations. They just work to try to revise standards for the manufacturing industry, including the food packaging industry. So what in the world is wrong with that?

Ms. BECKER. There are many mechanisms and examples already in place where industry is working together with the government to try to find solutions. Trade associations—

Senator BAUCUS. Without much success. Look at all the stuff going to landfills.

Dr. DENISON. Mr. Chairman, could I—

Senator BAUCUS. Yes, Dr. Denison.

Dr. DENISON. Could I interject? Your question about the diversity of packaging, for example, is right on target. We have done a survey recently of packaging of dairy products where we simply took categories like yogurt, cottage cheese, and so forth, went to a supermarket shelf, and looked at the materials used to package those products. We find, for example, in cottage cheese, that three different types of plastic resins are used to package that—one kind of product, depending on which company is making it. In many cases, even the same company's product is packaged in multiple ways.

Senator BAUCUS. What about that, Ms. Becker? We've got three different cottage cheeses.

Ms. BECKER. Right. And—

Senator BAUCUS. Cottage cheese is cottage cheese, isn't it?

Ms. BECKER. Yes, it is, but I think that you need to look at the amount of packaging that each of those materials has. I believe that you will find that one specific packaging material—probably polystyrene—uses the least amount of packaging to still preserve and protect the food product.

You have to remember that source reduction is the top priority in solid waste management, and you can't separate source reduction from recycling from the properties of the material. They all have to work together and all have to be considered.

Senator BAUCUS. That's correct. I agree with that. But it just sounds like there is unnecessary duplication if different cottage cheese containers use three different kinds of resins which, as you know, make it difficult to recycle.

Ms. BECKER. That's true. But, again, all I can say is that there is probably one resin that would allow you to use the least amount of materials and to maintain that.

Just one other comment—

Senator BAUCUS. Yes.

Ms. BECKER. As far as recycling, you should also recognize that all of the plastic containers are now coded with an identification. That does help in separation. There are different resins for different materials, and they are coded with an identification for recycling purposes.

Senator BAUCUS. OK. We're going to go vote right now, so I'm going to have to recess this hearing. There is another vote just immediately following that.

Basically, I think we had enough questions for this panel.

We'll come back and hear the second panel. The hearing will reconvene in about 15 minutes.

[Recess.]

Senator BAUCUS. The committee will come to order.

I see we already have our last panel assembled. For the record, it is: Melinda Sweet with Unilever, Director of Environmental Affairs; Mr. William Ferretti, Office of Recycling Market Development in New York; Jeff Lomax, Scientist with the National Environmental Law Center; and Pam Driver, Director of Government Relations and Foodservice and Packaging Institute, Washington, D.C.

I understand, Mr. Ferretti, you have to leave by a certain time?

Mr. FERRETTI. Yes, sir. By 4:15 at the latest.

Senator BAUCUS. By 4:15 at the latest. I think we can probably accommodate that.

Ms. Sweet, why don't you begin?

**STATEMENT OF MELINDA SWEET, ASSISTANT GENERAL COUNSEL, UNILEVER, AND DIRECTOR OF ENVIRONMENTAL AFFAIRS FOR LEVER BROTHERS, ON BEHALF OF GROCERY MANUFACTURERS OF AMERICA, INC., NEW YORK, NEW YORK**

Ms. SWEET. Good afternoon, Mr. Chairman.

I am Melinda Sweet, Assistant General Counsel of Unilever United States, and Director of Environmental Affairs for its Lever Brothers subsidiary.

Unilever has eight consumer product companies in the United States, including Lever, Thomas Lipton, and Chesebrough-Pond's.

I am testifying also on behalf of the Grocery Manufacturers of America, whose members make 85 percent of the grocery products sold in this country.

I would like to highlight a few key points from my written remarks, and start with the fact that voluntary programs are working.

Our industry fully supports EPA's hierarchy of integrated solid waste management in concept. Right now we are doing all we can voluntarily to implement it in practice.

By minimizing packaging, using recycled materials to the extent available, designing recyclable or reusable packaging, and recycling waste in our own facilities, the voluntary market-driven approach to solid waste reduction is working.

In source reduction our dedication and real progress are not superficial or based on short-term advantage. We are driven by the dictates of the marketplace and by our consumers' needs. For example, Lever Brothers has launched a super-concentrated powder laundry detergent in a package representing an average of 39 percent source reduction. By year end we will be light-weighting 67 percent of our plastic household product bottles, saving the equivalent of 13 million bottles from the waste stream.

Chesebrough-Pond's has light-weighted its nail polish remover bottles by 15 percent, a 355,000 pound per year reduction of virgin high-density polyethylene, or HDPE.

Lipton has achieved size and thickness reduction of over 10 percent in its fruit cartons and pouches. Van den Bergh Foods has reduced the plastic in its margarine tubs by almost 25 percent, saving 6.5 million pounds of plastic waste annually.

Our companies have also voluntarily eliminated the use of heavy metal pigments in our packaging inks.

Unilever is not alone. Other companies are establishing voluntary source reduction goals and are using formulas for calculating reduction developed by the Coalition of Northeastern Governors, or CONEG. These voluntary, positive, marketplace solutions are working now and they are the right approach, we believe, for the future.

With respect to recycling, here once again solutions that are voluntary and marketplace-oriented are bearing fruit in each principal commodity area.

In paperboard, for example, the boxes used in packaging Lever's detergents are made from 100 percent recycled paperboard. Chesebrough-Pond's uses recycled paperboard for its toothpaste cartons, saving three million pounds of virgin per year.

In plastics, a year ago Lever embarked on an ambitious and trend-setting plastic recycling program. We encouraged our largest plastic bottle supplier to build a recycling center, in turn committing to buy half its output of recycled HDPE. Today, at least half of Lever's bottles contain up to 35 percent recycled plastic, diverting the equivalent of 50 million plastic bottles from the waste stream. During the same period, the estimated national HDPE recycling rate rose from 2 to nearly 6 percent.

Our program illustrates the fundamental importance of voluntary partnerships between the makers of product and package in achieving the economic viability of a given recycling process.

While the result is to drive packaging technology rapidly forward, we cannot provide lighter, smaller, increased recycled content packaging without sacrificing characteristics consumers expect and trust, such as strength and durability, health and safety, and product protection.

We urge that legislative solutions be developed in the context of consumer safety and acceptance, and oppose mandated numerical toxic use and source reduction targets. Further reduction by mandate could result in unsafe packaging.

Second point: the best role of government is focused. To legislate recycling rates and national minimum content standards is premature. Many communities do not yet have the facilities in place to separate, collect, and process waste which is recyclable. For instance, only some 1,600 curbside recycling programs collect plastic today. Until this embryonic infrastructure is up and operating widely, Congress lacks the basis on which to calculate attainable targets, let alone mandate them.

We do, however, believe that government must become an active partner in the effort. Federal incentives such as procurement preferences, technical assistance, and consumer education are needed to build economically-viable markets for recycled materials.

Third, GMA members have strong reservations regarding the creation of the proposed Products and Packaging Advisory Board. Voluntary programs are already underway through various associations and ad hoc coalitions to obtain such input. Packaging issues have historically been outside EPA's domain, and we believe the Administrator's actions will become de facto standards, despite their voluntary cast.

Likewise, rather than create a new hazard constituents and packaging program, EPA can use existing authorities under TSCA and RCRA to achieve these same goals.

Fourth and finally, for reasons of consumer education cost and efficiency, national manufacturers need a single, uniform approach to labeling. We believe that deference to the FTC is appropriate in view of its long and successful role in protecting consumers from deceptive, unsubstantiated claims.

Thank you. We appreciate the opportunity to address the subcommittee, and I will be pleased to answer any questions.

Senator BAUCUS. Thank you very much, Ms. Sweet.

Mr. Ferretti.

**STATEMENT OF WILLIAM M. FERRETTI, DIRECTOR, OFFICE OF RECYCLING MARKET DEVELOPMENT, NEW YORK STATE DEPARTMENT OF ECONOMIC DEVELOPMENT, ON BEHALF OF COUNCIL OF NORTH EASTERN GOVERNORS (CONEG), ALBANY, NEW YORK**

Mr. FERRETTI. Thank you, Mr. Chairman.

As you mentioned, I am the Director of New York State's Office of Recycling Market Development, which is housed within the State's Department of Economic Development.



In addition to those State responsibilities, I also serve as one of Governor Mario Cuomo's representatives to the Coalition of Northeastern Governors—CONEG—Source Reduction Task Force. I also serve as Chair of the Northeast Recycling Council, or NERC, which is an organization of State recycling officials sponsored by the Council of State Governments.

As I think you are aware, the northeastern States have been actively pursuing a regional source reduction and recycling agenda for the last four years. In my written testimony I describe the initiatives that New York, individually and in concert with its northeastern neighbors, has undertaken, including our achievements in toxics reduction and packaging, which Senator Lautenberg mentioned is the basis of his Senate bill 730. Also described in my testimony is how we have leveraged voluntary commitments from manufacturers to adopt practices that reduce the disposal impact of packaging waste. Also mentioned are our initiatives in the area of product labeling.

I wanted to confine my remarks at this time to describe what we in the northeast have learned from our efforts to develop and implement a region-wide coordinated strategy on source reduction and recycling and how that experience is guiding our current activity.

Without a doubt, there are significant steps being taken by the private sector in this country and elsewhere to achieve packaging source reductions and/or increase the use of recyclable materials. I would argue, however, that only in some instances are those actions being driven by the signals provided by the marketplace's pricing system.

More often than not, these achievements have been motivated by a desire, I believe, to avoid regulatory action.

The question we need to consider is why these actions would not have occurred in the absence of considerable scrutiny that has taken place, both from the public, in general, and from State legislatures. My conclusion is that the marketplace is sufficiently distorted to make it difficult for firms to realize economic benefits by utilizing recyclable instead of virgin materials, or from making investments to source-reduced products, or by ensuring that those products be recovered and reused or recycled at high rates.

Furthermore, once they do commit to a waste reduction program, there are no price signals from the marketplace that enable companies to identify an optimum course of action, either by way of source reduction, reusability, or recyclability.

There are, I believe, a number of factors contributing to this uneven market condition. These include a set of policies and market flaws that have effectively allowed companies and consumers not to be accountable for the ultimate financial and social costs that are associated with the management of packaging and products once they have been discarded as waste.

Two principle factors distributing to these distortions are: first, the price system's failure to internalize solid waste management costs into a product's price; and, secondly, public finance practices that undervalue the price of solid waste disposal.

In the northeast, a number of States have concluded that the most effective means for promoting the achievement of waste re-

duction by way of source reduction, reuse, and recycling is to take legislative action aimed at eliminating or correcting for these market-distorting factors. We in New York, along with our colleagues in Connecticut, Maine, New Hampshire, Pennsylvania, Rhode Island, and Vermont, have been charged by our governors to prepare, in consultation with industry and other interested parties, draft model legislation that provides for the establishment of packaging goals, guidelines, and standards that must be met by all packaging sold in the northeast.

At least part of the reason for this decision to take a legislative course stems from the phenomenon that I noted earlier—that voluntary actions being taken by companies today occur in the absence of market signals. As a result, there is no guarantee of an optimal outcome.

While it is too early to describe what the draft legislation that we in the northeast are preparing will contain, as we have just begun our work, policy options for exploiting the motivating nature of the marketplace are likely to figure in our work.

I'm referring here to corrective actions that would motivate waste reduction through price signals—signals that would help companies make, on the output side, optimal choices regarding design and production that incorporate source reduction and recyclability and, on the input side, decisions regarding the utilization of recyclable materials as the raw materials of production.

Among the policy options that we elected to consider in the coming months are: the application of a packaging tax or fee that reflects the full cost of disposal with credits for product source reductions or investments by the manufacturer to retrieve and recycle the used products; alternatively the creation of a market for waste reduction through the trading of permits; and a requirement that all private and public disposal capacity be fully valued to reflect not only the operating costs, but the associated replacement, depletion, and environmental costs.

Given this base of experience and the direction in which we in the northeast are headed, I believe that Senate bill 976, with its emphasis on advisory boards and recommendations for voluntary action, will fall short of yielding the fundamental marketplace developments that need to occur if waste reduction is to become an achievable public policy objective.

A critical mass of States in the northeast, including my own, have set a course to explore market-directed actions for yielding lasting reductions in the generation and disposal of solid waste.

It is our hope that you will avail yourselves of the work that we have already accomplished in the area of toxics reduction and product labeling. Furthermore, we hope that our current work on model waste reduction legislation for the region can contribute to the work of this subcommittee as it prepares its final version of the RCRA amendments.

With that, I will conclude my remarks and thank you.

Senator BAUCUS. Thank you, Mr. Ferretti.

Mr. Lomax.

**STATEMENT OF JEFF LOMAX, RESEARCH SCIENTIST, NATIONAL ENVIRONMENTAL LAW CENTER, BOSTON, MASSACHUSETTS**

Mr. LOMAX. Thank you, Mr. Chairman.

I have been asked to summarize some of our recent research which we conducted in conjunction with economist Robert Stone and Professor Nicholas Ashford of the Massachusetts Institute of Technology. This research deals with the feasibility and the social and economic impacts of recycling standards for packaging.

This work culminated with the release of two reports: "The Art of the Possible" and "Package Deal." I will briefly summarize the findings of these reports.

In "The Art of the Possible," we were specifically asked to assess the feasibility of legislation that would establish recycling standards for packaging on a State-wide basis. Recycling standards have been proposed, and they basically put two requirements on packaging: either that the packaging be made of recycled materials, i.e., it has a recycled content; or, secondly, that the package be fabricated from a material that has achieved a recycling rate. In the case of Senate 976 it is referred to as a utilization rate.

We targeted packaging because it was the largest component of the waste stream, or it has been the target of legislation for that reason.

In the report, the key thing we set out to do was to assess the potential for packaging materials to achieve a standard of a high utilization rate or a high recycling rate. We identified three critical factors that would really determine whether a material could achieve the rate.

The first was the presence of technology. Is there a technology out there that will allow for materials to be recycled and reused? In the case of the most common materials used in packaging, we identified a number of technologies that already exist to recycle them and get them into new uses. But, furthermore, we identified a number of innovative new technologies, and it was the innovation aspects that we thought were most interesting.

For example, paper with stickies—that's a term that people have talked about—paper with adhesives and gums—a number of new innovations allow for that material to now be recycled, where in the past it was landfilled. This one was kind of a bright idea. It is a lightbulb holder that is made from old newspapers. Again, a modest example, but just a sense of some of the innovation that we are seeing out there that is allowing recycled materials to be utilized and put into new products.

One of the Nation's leading plastics recyclers now takes HDPE plastic and incorporates them back into bottles at a 25 to 100 percent content. We think that is very significant. It is showing a number of innovations in plastics recycling that relate to getting high content back into products. And glass manufacturers are reporting a 40 to 80 percent utilization rate in some furnaces.

The second factor that we identified that was very important to successful recycling was the feasibility of collection and separation. Collection and sorting of materials is certainly an integral part to any serious recycling effort.

Collection does present some difficulties and challenges to the future that will certainly determine whether materials achieve high recycling rates, but we also observed significant growth in the number of materials recovery facilities, drop-off centers, business, and institutional recycling efforts, and particularly curbside recycling program, that led us to believe that supply will be there and that trends are towards increasing supply from these types of programs.

And then, finally, the third factor which I would really like to emphasize—and it did come up in the previous panel—is issues of product design.

Before a product ends up in a store, there are a number of things a manufacturer can do in the production process to improve the recyclability of a product, often called design for recycling. We have seen the Heinz ketchup bottle example. Reductions in metals are all very important examples. I think that the introduction of design for recycling ideas or legislative proposals that give incentive to design for recycling really hold the most promise for moving us to that next level where we can really get a number of more products into the recycling stream that currently aren't being recycled because of difficulties.

So these are the three factors that we thought were critical. Positive developments in all of them really led us to the conclusion that once we consider these factors and the growth and the potential for innovation in these areas, that there is no technical reason that the requirements for high recycling standards—or high utilization rates as they are referred to in Senate 976—cannot be met.

I would then like to quickly come back to Senate 976 and address a couple of brief comments on the legislation that we felt would not necessarily lead to high recycling as it is currently written.

I think the key areas we identified were that the emphasis is on recovery rather than utilization, which presents some confusion. For example, a newspaper can be recovered and not necessarily go into this new product, but it could go into the cogeneration burners in that plant. There is nothing preventing that.

Finally, we also felt that a materials neutral standard is the one that really moves innovation forward, because what it does is incorporates free market principles to say level playing field, all materials compete equally to achieve this standard, versus this command and control approach, which is really put forward in the present legislation that really prescribes what rate certain materials would have to achieve. We feel that would really stifle some of the innovation that we have identified as desirable to get to these goals.

Thank you very much.

Senator BAUCUS. Thank you very much, Mr. Lomax.

Ms. Driver.

**STATEMENT OF PAM DRIVER, DIRECTOR, GOVERNMENT RELATIONS, FOODSERVICE AND PACKAGING INSTITUTE, ACCOMPANIED BY RICHARD DAVIS, JAMES RIVER CORPORATION**

Ms. DRIVER. Thank you, Mr. Chairman, for the opportunity to testify today.

My name is Pam Driver. I'm Director of Government Relations for the Foodservice and Packaging Institute located here in Washington. Richard Davis of James River Corporation is here with me today to assist in answering any questions you may have.

Detailed responses to questions raised in your invitation to testify are included in our written testimony.

S. 976 would affect our industry in a wide range of areas, but my comments today will focus specifically on product and packaging questions raised by the committee.

I respectfully request the attachments to my testimony be entered into the record.

The Foodservice and Packaging Institute, or FPI, is a 58-year-old trade association representing 50 manufacturers of egg cartons, meat trays, yogurt, ice cream, and other containers, cups, plates, utensils, portion cups, and other items made of paper, plastic, and aluminum. Its members sell nationally and internationally.

Minimization of packaging has been and remains a fundamental component of everyday business economics. Industry is forever conscious of the cost involved in producing and shipping products. FPI believes that customer-driven requirements and competitive demands provide sufficient stimuli to generate innovative and research-oriented solutions.

Can the voluntary approach work? FPI has demonstrated that it can. An example of voluntary change by our industry to benefit the environment is the voluntary phase-out of CFCs from foam foodservice products.

Even before the Clean Air Act of 1990, FPI members completely phased out the use of fully halogenated CFCs. The plan to phase out CFC-11 and CFC-12 was established in a voluntary agreement reached between the polystyrene producers, EPA, the Environmental Defense Fund, the National Resources Defense Council, and Friends of the Earth, as concerned environmental groups, in April of 1988.

On February 16, 1989, the Foodservice and Packaging Institute announced that manufacturers of polystyrene food products were 99 percent free of the use of CFCs in production processes. By February 28, 1990, 100 percent voluntary elimination of CFCs was achieved.

In November, 1990, the United States Environmental Protection Agency awarded FPI the Stratospheric Ozone Protection Award in recognition of exceptional contributions to global environmental protection.

Over the past decade, the geometric configuration, weight, and packaging requirements of the products and packages represented by FPI has resulted in a weight reduction of 17 to 74 percent. Manufacturers are continually experimenting and approving new technologies which allow them to make products that will accomplish the task for which they are designed with the minimum usage of raw materials. These reductions have been made while maintaining or improving performance and sanitation levels.

Member companies have reduced cup weights by as much as 22 percent, and placemat weights by 19 percent since 1985.

FPI supports an integrated solid waste management strategy that includes recycling and composting as a component of recy-

cling, waste-to-energy conversion, and landfilling. Almost all packaging is recyclable when recycling includes composting and if cost is not a factor. However, any national strategy must maintain flexibility for local community options.

Resolutions passed by the National Environmental Health Association and the International Association of Milk, Food, and Environmental Sanitarians state that "The strategy of minimizing the use of single service in order to alleviate the solid waste and litter problems is a regressive step in food protection and contrary to the interest of public health." Copies of both public health resolutions are included with the written testimony for the record.

Single-use food packaging provides significant public health benefits by virtually eliminating the possibility of disease transmission. In fact, the modern disposable cup was created to reduce the spread of diseases at the turn of the century.

Today the need for sanitary foodservice products and packaging is as great as ever.

Food safety and public health are of paramount concern. Laws and regulations in place for more than half a century have contributed to the United States possessing one of the safest and best food supplies in the world.

Legislation mandating recycled content in food contact surfaces could compromise public health and safety. Recycled content decisions should be left to the manufacturer in accordance with applicable food safety and food surface contact regulations.

While FPI recognizes the inclusion of industry representatives on the proposed Products and Packaging Advisory Board, we question the need for such a board. Much attention has been focused on the role of packaging in the waste stream, and implicit in creation of the Board, is the notion that products in commerce today are generally overpackaged. This does not take into consideration the many values of packaging and the potential costs and increased waste generated from damage, spoilage and loss in product quality.

The development of innovative and creative packaging designs using new technologies could be stifled by the Board. Constant improvements in product design to reflect technological and economic changes would make Federal regulation of packaging extremely complex and cumbersome.

The question was posed concerning the use of lead, cadmium, mercury, and hexavalent chromium in products and packaging. Our industry complies with the CONEG model toxics legislation.

Most of the foodservice disposables and packaging industry use water-based inks. The change to water-based inks has resulted in the virtual elimination of solvent emissions.

We support proper waste management options for the disposal of products and packaging. Congress must ensure that manufacturers retain maximum flexibility to utilize recovered materials in the most economically and technologically feasible manner.

It is important that industry, all levels of the government, and consumers work together to reach integrated solid waste management solutions; however, safety, health, and sanitation needs must remain paramount in all environmental decisions.

I would like to commend you, Mr. Chairman, and the entire subcommittee, for your interest in improving the Resource Conserva-

tion and Recovery Act. We support your holding the hearings and look forward to working with you.

Senator BAUCUS. Thank you.

Essentially, Ms. Driver, are you basically saying packaging and manufacturing industries are doing a good job by themselves voluntarily? Don't rock the boat, because we are doing a pretty good job? That's the thrust of your argument.

I'd just like Mr. Ferretti to respond to that, and Mr. Lomax.

What is the main reason why you think that some public sector action is necessary above and beyond what the packaging industries are doing here?

Mr. FERRETTI. Our concern has to do with the whole concept of level playing fields. There are a couple of different kinds of playing fields that, in our view, are not level. Let me give you two examples.

In the area of recycling, there is not a level playing field for companies to make decisions to use recyclable versus virgin materials.

Senator BAUCUS. For example? Why is it not level?

Mr. FERRETTI. Because of the kinds of market flaws that I mentioned in my testimony—the lack of the price system incorporating the cost of disposal associated with products—in addition to other kinds of policies that are in place that may, in fact, bias input decisions in the favor of virgin materials—U.S. Forest Service timber cutting policies, for example. In addition, there are IRS provisions regarding the availability of tax-exempt bonding for the construction of disposal capacity—primarily incinerators—but, do not make that same kind of benefit, that tax-exempt bonding benefit, available for the construction of manufacturing facilities that would be using secondary materials as an input.

So we have those kinds of unevenness between recycling versus not recycling. You also have an unlevel playing field in terms of making a corporate decision whether you are going to source reduce a product or design that product to be recyclable.

As Ms. Driver mentioned, the industry has a vested economic interest in wanting to minimize its cost. To the extent that it can do that through materials reduction, toxics elimination, or materials homogeneity, they can do that. But, at the same time, they don't have those same kinds of economic signals to make investments in, for example, collection and recovery facilities, or processing capabilities, that would enhance the recyclability of products.

It is not clear to me, for example, that a company's choice to source reduce a product is necessarily the best outcome, particularly if that product had been previously recyclable, and the net outcome is a nonrecyclable, but smaller, product.

Senator BAUCUS. Mr. Lomax, do you have a comment?

Mr. LOMAX. I have a couple of comments. One would be that certainly the standards would create the incentive for everyone to get involved in moving recycling forward, and it would stimulate industry to invest in some of that collection infrastructure. For example, in Massachusetts there was a materials recovery facility being built, and the problem was it wasn't going to get plastics because it couldn't collect the plastics, it couldn't make the necessary investments. Industry stepped in, because of legislative proposals that were going on in the State, and helped facilitate the invest-

ment and funding of collection infrastructure for plastics. So it certainly gives people the incentive to get involved in moving recycling forward.

But, secondly, as I have read both this legislation and legislation proposed elsewhere, it isn't a specific mandate that specific products must contain specific amounts of material, at least out front. It's talking about utilization and getting those materials into productive uses.

So I think the pressure is to get recycling moving and getting them put into products so we can realize the environmental benefits of recycling, but the intent thus far has not necessarily been to prescribe specific uses—rather, to rely on free market forces to get them into the products.

Senator BAUCUS. I wonder, Ms. Sweet, if you could react to Mr. Ferretti's point that the playing field is uneven, that is, the incentives now are biased toward use of virgin materials as opposed to recycled materials.

Ms. SWEET. I really don't agree. I think that the choices that consumer products companies are making are partially economically driven.

Senator BAUCUS. But his point is the economics that are built in.

Ms. SWEET. Then why are we doing so well at what we are doing?

Senator BAUCUS. Maybe I'm being presumptuous. I don't know if you understand his point.

Ms. SWEET. I don't.

Senator BAUCUS. His point is, as I understand it, that there are tax incentives, like the tax free municipal bonds, for example, for construction of incinerators.

Ms. SWEET. Right.

Senator BAUCUS. But they don't provide the same tax incentives to build a deinking facility, for example. He agrees that a lot of these decisions are market-based, but he's saying the market is distorted. Also he's saying the company doesn't have to concern itself with the disposal costs in a landfill, for example, which is part of the cost that is really involved here.

Ms. SWEET. Yes. I do think that companies are—it is good business to know where your product is going, number one. And so I certainly think companies take into consideration when they are designing them. They build that in at the bench.

I think it would be very desirable, for example, if our bottle supplier had some monies coming from somewhere to build the recycling plant, but, nonetheless, we did it because we believe we can drive the market if we join forces to develop recycling.

And we think that there are enough market incentives out there for us to be doing it. We have been doing it for a number of years, and been doing it rather successfully—"we" Lever, "we" Unilever Companies, "we" Grocery Manufacturing Industry.

Senator BAUCUS. What about some of the other companies that aren't doing as good a job as Unilever?

Ms. SWEET. Well, we would hope that perhaps we would be a model and an inspiration to some of the smaller businesses.

Senator BAUCUS. I was interested and struck by your comment that you oppose minimum content essentially, or at least in large part, because of potential inadequate supply.



Ms. SWEET. That could be a problem in some instances. For example, although paper generally is being widely recycled, and newspaper is abundant and corrugated is abundant, paperboard collection and recycling is very limited.

Senator BAUCUS. And that's the point I'm getting to, because in an earlier panel three or four weeks ago I was struck with the problems that municipalities have in setting up curbside collection services and separation.

Ms. SWEET. Yes.

Senator BAUCUS. There's not enough demand for the product, whether it's paper or plastics or aluminum. Aluminum is different, but there's just not enough demand. It's my thought that we ought to kind of help put two and two together here. It might make sense to look toward a reasonable minimum content requirement so there would be more likely to be demand.

Ms. SWEET. But I'm not certain that there is a direct correlation between minimum content and supply and demand.

Mr. LOMAX. Mr. Chairman, if I could offer an analogy, a few years ago we witnessed the bottom drop out of the newspaper and newsprint markets, so what we saw was the imposition of mandatory content standards for newsprint in northeastern States. Within the following three years the industry committed to both de-inking and facilities to get those materials back into newsprint, so I think that's a very clear example of where the direction given to the marketplace that says we need these materials back into new products—in this case new newspapers—stimulated the investment and the direction that we are looking for in recycling.

So I disagree. I think the connection is very clear. Not only is it the right direction to take for the environment, but it also gives that direction which will drive the market to the outcome we'd like to see here.

Senator BAUCUS. Ms. Driver, do you want to respond to that?

Mr. DAVIS. Mr. Chairman, I will admit—

Senator BAUCUS. I'm sorry. Your name again?

Mr. DAVIS. Richard Davis.

Senator BAUCUS. Thank you.

Mr. DAVIS. The unlevel playing field you're talking about—there are places where an unlevel playing field does exist; however, the bottom line is whether we are doing the job voluntarily to recycle material with or without mandated content standards.

The point we are making is that a mandated standard does two things for you. It allows you or provides a level field where the product must meet a requirement based on recycled content. It also does not provide any incentive for anyone to go beyond that. There's no reason—if you have a minimum content standard at 50 percent, there is no incentive to provide a product at 75 percent.

There is also a stifling effect in that if you have a product that you tried to manufacture at 50 percent, that minimum content standard, and it doesn't work, then you have no incentive to provide research to develop a product at 40 percent standard because you no longer have an incentive for that.

So to provide the playing field that allows the maximum usage based on intended end use is the field that allows everyone to con-

tinue to provide competitive and innovative and research-modeled structures to do a better job and utilize more of that product.

Senator BAUCUS. But what about recovery and utilization requirements? Doesn't that help?

Mr. DAVIS. The whole scenario is very complex because you do have several problems. Number one, you have to have an infrastructure to collect the materials. You don't set up the infrastructure and spend the money to collect product until you have a facility that is able to utilize that product. In the paper industry, alone, it cost millions and millions of dollars—in the range of \$100 million—

Senator BAUCUS. That's correct.

Mr. DAVIS. —to buy and prepare the plant for using recycled deinked fiber.

Senator BAUCUS. But the newsprint industry tells me—I may be wrong on this—that they can meet a 50 or 40 percent recovery and utilization rate in the next several years.

Mr. DAVIS. By 1995 the American Paper Institute is committed to do that.

Senator BAUCUS. That's correct.

Mr. DAVIS. And we are on target to do just that.

Senator BAUCUS. And they also said—at least by some of the industry I have spoken with who make the newsprint—that if they cannot do so, at least one chief executive, a very major producer, said that he's willing to be subjected to a 50 percent minimum content requirement if the industry cannot make that 40 percent utilization rate.

Mr. DAVIS. And I was going to make the comment that it is not just the newsprint industry, it's the American Paper Institute, as a whole. All paper manufacturers have committed to that 40 percent recovery and utilization rate.

Senator BAUCUS. Correct.

Mr. DAVIS. That is in process. That takes years to accomplish. That's why it has been done over a ratchet-up system, because it takes three to four years to build a plant to deink paper, and millions of dollars to do it.

So you're putting all the pieces together at the same time—

Senator BAUCUS. Right.

Mr. DAVIS. —and the story we're telling is that we are doing it and there are no mandates to have to do it right now, and it is being done.

Senator BAUCUS. I think some are doing it, but to help an orderly putting together of the process I'm just trying to fashion a way reasonably and responsibly where both supply and demand sides come together. That's all I'm trying to do.

Part of the provisions of this RCRA reauthorization bill is to help the supply side go through the curbside collection and let communities do that—the demand side. I agree this is complex. I agree it cannot be forced, nor should it be forced. But I also believe that we have to make an effort. We have to begin to reasonably and responsibly address both ends of the equation so that we are a country that doesn't have near the same land disposal problems that we now have.

Mr. DAVIS. I understand that. When we talk about mandated content, however, we must keep in mind that each and every product or package or material carries with it an intended end use requirement, which may or may not satisfy a broad category of recycled content. That causes problems.

Senator BAUCUS. I understand that.

Mr. Ferretti, you said you had problems with the bill—it wasn't tough enough. What did you mean?

Mr. FERRETTI. In the sense that the bill—and I'm confining my remarks now to title two. I did not—

Senator BAUCUS. Right.

Mr. FERRETTI. —address title III, which I'd be happy to do at some future date.

It appears to me to repeat what a number of us in the northeast have already done through CONEG and NERC. I guess my request to you is to force the pace here, if you will, in terms of the state of the art of policy development. I think what you have in the bill is where we are right now in terms of the advisory panel approach, which is essentially the kind of approach that the CONEG governors have already taken with the Source Reduction Task Force.

Our next step now is to craft this model legislation that the governors have directed us to do, which is the next step. I would encourage you on the subcommittee to look towards those more aggressive approaches. It could be done within the context of an advisory panel, certainly, but to have some more specific, driving actions and results that come out of that effort.

Senator BAUCUS. Mr. Lomax or Mr. Ferretti, I wonder if you could tell us the degree to which, in your judgment, collection and supply of recyclables is a problem because of the variability of product—the different kinds of plastic bottles and different resins and so forth, and different kinds of glass—colored glass, for example—the degree to which that, in itself, impedes recycling.

Mr. LOMAX. I would be happy to address that question.

I think the best example I have found recently is back to the PVC example that was brought up in the first hearing. There are now recyclers—we have documentation on this—that have rejected bales of PET material for the fear that it might contain PVC. They said they will only accept soda bottles and liquor bottles, because they know that those two products are not made with PVC. So the Heinz ketchup efforts are totally defeated by the potential presence of PVC.

I certainly would say the difference here is expectation versus hope in recycling. We expect certain levels to be met. That will require certain changes. And in some cases that might require that certain materials do not get put into certain use because they are disrupting the progress for the materials.

Senator BAUCUS. And you'd agree with that, Mr. Ferretti?

Mr. FERRETTI. We have taken a bit of a different approach in New York by trying to acknowledge the fact that there are well-founded reasons for using different types of resins in packaging. Through our office we have a grants program where we are trying to stimulate development of technology that could possibly accommodate different kinds of resins by separating them out into their component parts.

Rather than supporting regulatory actions that would constrain the private sector's choices regarding product variability, my agency has acted to support the development of technological solutions that effectively negate the limiting effect that this attribute can have on recycling. I offer two illustrations of our approach. In the first example, a grant from our Office supported another New York company's development of a glass coloring process. This process will preserve the glass industry's ability to satisfy market demand for the current range of colored containers. At the same time, it will render glass homogeneous from a recycling standing, obviating the need for color-sorting and eliminating the problem of limited domestic recycling demand for green glass.

In the second case, my Office has provided grants to three different New York companies to support the development and testing of processes for classifying post-consumer plastics by resin type.

We've taken an R&D approach trying to support technology that will separate out these resins to address the kinds of fears that Mr. Lomax is referring to of mixed resins getting into a production mix.

That's where we have been putting our dollars—in betting that you can develop the technology to do it.

Senator BAUCUS. Is there any consensus on this panel as to which of those approaches tend to be better and more likely to produce the intended results—that is, technologies to separate resins, for example, versus R&D to find ways to address the safety, the durability, and all the other necessary goals in food packaging.

Mr. LOMAX. The expectation will drive either. I would not submit here today that there is one approach, whether it be technology based or just moving out and taking material that is superior. But the difference, again, is that the expectation that this happens means there will be a solution, versus the hope that we can move along and get to some level of recycling, doesn't create that same level of expectation, doesn't give the same direction to the market, and doesn't stimulate the level of innovation that is needed to really move recycling forward on a level that is much more significant than what we are seeing today.

Senator BAUCUS. Can you, Ms. Sweet, tell me if it's true. I'm advised that Clairol shampoo comes in HDPE bottles as well as PVC bottles.

Ms. SWEET. We are not the makers of Clairol shampoo, so I really am unable to answer that question. But it is not uncommon to find shampoo in PVC bottles.

Senator BAUCUS. If it could be in one, couldn't it be in the other?

Ms. SWEET. It's quite possible that each resin—maybe the shampoo has a conditioner or some other characteristic in it that is better contained in PVC or otherwise, or it simply could be because they haven't changed over. Sometimes in redesigning packaging we exhaust the inventory of one kind of product before we change it.

Senator BAUCUS. Either you or Ms. Driver can answer this. I'm just curious. Let's take yogurt. Yogurt, I'm advised, comes in two types of plastic containers. Columbo and Dannon come in polypropylene. Lucerne and Weight Watchers come in polystyrene. Now, any reason why the difference?

Ms. SWEET. I'm probably not the one to answer this—

Senator BAUCUS. Any health reason?

Ms. SWEET. —because we don't make yogurt.

Senator BAUCUS. Is one healthier than the other? Is one more durable and long-lasting than the other?

Ms. SWEET. Actually, probably Deborah Becker would have answered that question very effectively, because I think that she understands—

Senator BAUCUS. She's still here.

Ms. SWEET. —the properties of plastic and why one is better than the other. For our situation at Lever Brothers, for example, we use high-density polyethylene because it has certain properties that are good for our non-food products.

Senator BAUCUS. I'm just trying to get to the bottom of this question on yogurts.

Ms. BECKER, do you want to answer this question, if you can? Why don't you pull up a chair and sit at the table here?

Mr. Ferretti, do you have to leave?

Mr. FERRETTI. Yes. I'm sorry.

Senator BAUCUS. Thank you for coming down. We appreciate it. Thank you.

Mr. FERRETTI. Thank you.

Ms. BECKER. As I stated in my remarks before, there are many different reasons why different packaging materials are used. In the case of yogurt, the polystyrene and the polypropylene both maintain the food safety for the product, but most likely with a different amount of material. The same barrier properties cannot be achieved with those same two plastics by using the same amount of material.

Senator BAUCUS. Is one more safe than the other?

Ms. BECKER. No, but it does not have anything to do—

Senator BAUCUS. Has nothing to do with safety?

Ms. BECKER. It has everything to do with food safety, but the two resins, because of their different barrier properties for both chemical, light, oxidation, you might have to use more of one material—probably the polypropylene—in order to achieve the same functional properties to maintain the food safety of the product.

What I am saying is that you can probably use less polystyrene for that product and have to use more polypropylene to—

Senator BAUCUS. Is there any reason why yogurt can't be in polypropylene—all yogurt in polypropylene?

Ms. BECKER. It is a balance between not only the food safety issues, but the consumer needs, the economics, the recycling, the amount of material.

Senator BAUCUS. You're going through these awfully quickly. Health is one. What other reason?

Ms. BECKER. The economics. The consumer need.

Senator BAUCUS. One at a time. Is one significantly more expensive than the other?

Ms. BECKER. Yes. There is a different in resin price.

Senator BAUCUS. Which is more expensive?

Ms. BECKER. It depends on the market. I really can't quote at that point which is, but there is a difference in price. All resins are different price.

Senator BAUCUS. But you don't know what the difference is?

Ms. BECKER. Not specifically at this point in time. No.

Senator BAUCUS. All right. Let's take butter. There are two types of plastic containers. Land O'Lakes and Parkay use HDPE; Fleischmans and Promise use polypropylene. Is one more safe than the other?

Ms. BECKER. They both are put into the marketplace to maintain food safety, but, again, I am sure there is a different amount of materials that are used in each of those.

Senator BAUCUS. There are. I just said there are different amount of material.

Ms. BECKER. Amount.

Senator BAUCUS. I'm asking why. Is there a good public policy reason for the difference?

Ms. BECKER. The public policy reason has to do with the fact that the complexity of the solid waste issue revolves around economics, it revolves around consumer needs, it revolves around what the manufacturer can more economically produce to bring the best value to consumers, along with the solid waste and the food safety needs. It is a combination of all of those things.

Senator BAUCUS. I know. I'm sorry, Ms. Becker, but you are not being very helpful here. You are giving us a list of gross generalizations. I'm trying to determine whether one of these plastics is better for food safety than the other, or whether one is a lot more expensive than the other, or whether there are identifiable reasons that particularly apply to one plastic with respect to butter as opposed to the other plastic with respect to butter.

Everybody understands the generalization. We are way past that. I'm asking you to help us get past the generalizations and down to specifics.

Ms. BECKER. If you look at—

Senator BAUCUS. Someone once said—and boy, it is true—that abstraction is cruelty.

Ms. BECKER. Right.

Senator BAUCUS. We're past the abstractions here.

Ms. BECKER. OK. Let's—

Senator BAUCUS. Let's get down to specifics.

Ms. BECKER. I will be happy, for the record, to give you specifics on cost and availability of the resins, but let me try the best I can.

There are seven kinds of plastic resins. Two, as you mentioned, are found for butter. That would say that the other five are not acceptable in any way to maintain the integrity of the product, but those two have properties which will maintain the integrity of the product in the marketplace, but will, in all likelihood, require more material or less material, depending on that resin. But the other five are unacceptable.

Senator BAUCUS. Let me ask Mr. Lomax. How easily can these be separated—HDPE and polypropylene?

Mr. LOMAX. For those two particular resins there hasn't been a lot of emphasis put on separating them because they are not commonly found in the mix. But there are technologies to separate resins.

Again, the question is the correct question. Other materials would also be suitable for butter; it's the lack of the focus in saying that yes, if we were serious about butter container recycling, then

we would put them all in the same resin. It's just simple efficiency. It's not a very complicated question.

Senator BAUCUS. Let's take shampoo. There are three types of plastic shampoo containers: HDPE, polypropylene, and PVC. Is there a significant reason why one shampoo has to be HDPE and another one has to be PVC and another one has to be polypropylene?

Ms. BECKER. I'm not from the shampoo business, but I think that it translates—

Senator BAUCUS. Well, you're the plastics expert here.

Ms. BECKER. I believe that it translates very directly to the properties of the product inside. There are different PHs, different acidities, different oxidation properties, and each of the resins provides our response to that.

Senator BAUCUS. We've gone through this broken record several times.

Mr. Lomax.

Mr. LOMAX. One comment on this. Part of our research did actually involve specific case studies of products and how they would comply with recycling standards. One of the products we specifically chose was shampoo. To answer your question, none of the people we interviewed—and we did interview manufacturers and suppliers of shampoo—would identify any technical reason why a particular resin was needed.

There are more marketing decisions made regarding the type of color or how glossy the package can be that would dictate using PVC over HDPE, but any substantive reason that relates to the delivery of the product in a safe and efficient manner was not identified in our research.

Senator BAUCUS. It helped me—maybe all three of you could respond along the lines that Mr. Lomax suggests, that is, the technical reasons for these differences. Shampoo, butter, and yogurt—I know there are four different types of plastics for all-purpose containers.

Marketing is important, but I'd like you to answer the question not from a marketing perspective—that is, color of the product, and all of that—but rather just from a technical standpoint. Marketing is important, but I'm trying to separate this question down to various components so we can get to the bottom of the matter here and find out what is really going on. You can always make a judgment later as to how to factor in marketing.

Ms. BECKER. Well, from a technical standpoint color—the opacity of a material for food safety is very important. For instance, that is why our Philadelphia cream cheese is in a silver container. That silver paper is in there for a reason, and it is very specific to oxidation. There are many of our cheese products which are in opaque packages—some of them metalized, some of them not—again, a combination between oxidation properties and the light from the dairy cases that would lead to the degradation.

Senator BAUCUS. I understand that, but that's really not responsive to my question because I'm talking about why different containers for yogurt. Yogurt is basically yogurt.

Ms. BECKER. Yes.

Senator BAUCUS. And butter is basically butter, unless you're telling me that Vermont cows produce a butter that's a lot different from Minnesota cows. You aren't, are you?

Ms. BECKER. No. I'm not going to tell you that, Mr. Baucus.

Senator BAUCUS. OK. So that's the question. Do you understand my point?

Ms. BECKER. Yes, I do. Part of my answer has to do, again, with the light properties. But specifically a yogurt container, can it be white or can it be yellow—

Senator BAUCUS. You're persistent. I've got to give you credit for that.

I have no more questions really. I want to thank this panel very much for your testimony.

[Whereupon, at 4:25 p.m., the subcommittee recessed, to reconvene at the call of the Chair.]

[Statements submitted for the record follow:]

#### PREPARED STATEMENT OF HUBERT H. HUMPHREY, III

Dear Chairman and Members of the subcommittee: Thank you for the opportunity to address this Subcommittee concerning one of the most urgent and important issues now facing consumers across this nation—environmental marketing.

Let me begin by commending Senator Lautenberg, and his co-sponsor, Senator Lieberman, for their outstanding leadership in this area. In my view, Senator Lautenberg's "Environmental Marketing Claims Act" offers a long-term, comprehensive framework for addressing the environmental marketing problem. On behalf of the National Association of Attorneys General, which has adopted a resolution in support of this legislation, I submit these comments in support of this bill. A copy of the resolution is attached.

It is important to note, at the outset, that the issue of environmental marketing is more than just a marketing issue—in fact, environmental marketing involves the most serious environmental and solid waste disposal problems now confronting this nation. As the current Chair of the Environmental Protection Committee of the National Association of Attorneys General, and as the past Vice-Chair of the Consumer Protection Committee, I believe we must move quickly in addressing the environmental marketing movement. Our challenge, as a nation, is to ensure that consumers receive accurate and reliable information about the environmental attributes of the products they buy so that they can play a meaningful role in helping to solve our serious environmental concerns.

As you may know, for nearly two years a 10-State task force has been grappling with environmental marketing—or, what I have termed the "green revolution." The word "revolution" is a strong one—but it is not an overstatement. In fact, in all my years as both a consumer, and a consumer advocate, I have never seen a marketing movement anything like this one. And like any true revolution, this one started with ordinary citizens who are demanding, in growing numbers, responsible environmental products.

Not surprisingly, marketers and advertisers wasted no time enlisting in the green revolution. Over the past couple of years, the shelves of our stores have been overflowing with products making green claims of all different sorts. However, the green revolution is now off course. Instead of providing meaningful environmental information, many of the claims contain nothing more than misleading and confusing buzzwords—such as "environmentally friendly," "biodegradable," "ozone safe" and "recyclable."

And some of the claims are pure fiction. Diapers claim to be "degradable," even though they are buried in landfills and do not degrade. Aerosol products claim to be "environmentally safe," even though they contain harmful pollutants. And plastic containers claim to be "recyclable," when recycling projects are only experimental and unavailable to most consumers.

In short, some companies are painting their products green—not because they are good for the environment—but because it sells. For consumers, this amounts to "green collar fraud." And we can't allow it to undermine the vast potential of this green revolution.



Our State task force has worked, over the past 18 months, to steer the green revolution back on course. First, we held public hearings in St. Paul and in San Diego to get as much input as possible from all interested segments of society—industry groups, environmentalists, consumer advocates and regulators. This past May, we issued our Green Report II, which sets out our recommended guidelines for marketers to follow in making green claims about their products. For your reference and for submission into the record, I am enclosing the Green Report II along with these comments.

At the same time, the task force also has exercised its enforcement powers against several companies. Most recently, six States settled their lawsuits against Mobil Chemical Company for deceptive claims that its bags are "degradable." And we are continuing to investigate a variety of other misleading environmental claims.

But State—and Federal—enforcement actions are not, by themselves, enough. Although aggressive enforcement is an important part of the solution, a case-by-case approach will simply be too slow and too cumbersome in developing the boundaries for legitimate environmental claims. In addition, the fear of Federal and State enforcement actions might actually deter some marketers from making legitimate, informative claims about the environmental attributes of their products.

The bill before this subcommittee—the Environmental Marketing Claims Act—provides the long-term national framework that is needed for governing environmental claims and ensuring that the green revolution stays on course. In short, this bill creates a national marketing program which will ensure that consumers are armed with accurate and meaningful information about the environmental properties of the products they buy.

Although I support this legislation, I must point out that I believe the Federal Trade Commission, as well as the EPA, must be involved in enforcing the environmental marketing requirements of this bill. Since the FTC is the primary Federal agency with expertise and knowledge in the area of marketing and advertising, the FTC's involvement in enforcing the bill is essential.

Of course, it is also vitally important that the States continue to retain their traditional authority to take action against marketers making deceptive and misleading environmental claims about their products. I commend Senator Lautenberg for protecting the States' traditional police powers to regulate their marketplaces, and for recognizing the important role the States must continue to play in protecting their citizens from abuses by marketers making inaccurate environmental claims. The States, in short, must retain authority to determine what laws are necessary to protect their citizens from deceptive advertising and to promote environmental objectives, and we could not support a bill that strips the States of these powers.

A couple of other comments about the legislation are also in order. First, it is unclear why the government representatives on the Advisory Board should serve ex officio. (Section 5(b)(1)(D)&(E)). I believe that the government representatives should have the full voting rights accorded all other members of the Board.

Second, I am concerned that the certification process in section 7 could open the door for potential abuses. Specifically, marketers might attempt to defend a State or citizen action on the ground that their environmental claim has been "certified" by the EPA, if the Administrator does not specifically disapprove of the certification. To avoid this type of problem, I recommend that language be included which provides that the Administrator's "failure to disapprove a company's certification does not constitute approval for any purpose." Also, I fear that some companies may attempt to use the certification process as an advertising or marketing tool. I therefore recommend including an additional provision which prohibits companies from claiming in an advertisement or on a label that their products or packaging have been "certified" by the EPA.

As a final point, I should note that the legislation, appropriately, does not attempt to define each of the environmental claims set out in section 6. Instead, the bill provides for the definitions and standards for these terms to be developed through the regulatory process. I believe that the environmental issues involved are too technical and too complex to be fully addressed in the legislation, and concur with the approach adopted in the bill.

Finally, as you may know, I recently testified before the FTC and called upon the Commission to adopt interpretive guides, as quickly as possible, to provide guidance to marketers seeking to make environmental claims. In my view, FTC guides are essential as an immediate first step. In the long term, however, Senator Lautenberg's legislation provides the type of permanent and enduring solution that is sorely needed to help secure our nation's environmental future.

In concluding, I would like to thank Senator Lautenberg and all the members of the subcommittee for giving me the opportunity to address the Environmental Marketing Claims Act of 1991. This legislation will help ensure that the green revolution is truly "environmentally friendly."

#### NATIONAL ASSOCIATION OF ATTORNEYS GENERAL

##### RESOLUTION URGING ADOPTION OF FEDERAL STANDARDS TO GOVERN THE USE OF ENVIRONMENTAL CLAIMS IN ADVERTISING

WHEREAS, American consumers are increasingly concerned about protecting the environment and want to do their part in restoring the nation's resources; and

WHEREAS, in an effort to meet this new consumer demand, many businesses are including claims about the environmental properties of products in their advertising and labeling, such as promoting them as "degradable," "recyclable," "recycled," or otherwise "environmentally friendly;" and

WHEREAS, a Task Force of eleven Attorneys General has studied the issue and found that due to a lack of accepted standards and definitions, some of the environmental claims in advertising are trivial, confusing, and misleading; and

WHEREAS, the State Attorneys General Task Force has recommended the development of national standards to govern environmental claims so that consumers receive accurate, reliable and meaningful information about the environmental impact of the products they are purchasing; and

WHEREAS, the Congress is considering legislation such as S. 615 and H.R. 1408, which provides a framework for action on environmental marketing issues in the context of reauthorization of the Resource Conservation and Recovery Act; and

WHEREAS, S. 615 and H.R. 1408 would require EPA to issue national standards and to establish by regulation an environmental marketing claims regulatory program; provide for civil penalties and criminal sanctions; provide for State enforcement authority and permit States to adopt more stringent standards or requirements.

NOW, THEREFORE, BE IT RESOLVED THAT THE NATIONAL ASSOCIATION OF ATTORNEYS GENERAL:

1) commends the Attorneys General Task Force chaired by General Humphrey with representatives of the offices of the Attorneys General of California, Florida, Massachusetts, Missouri, New York, Tennessee, Texas, Utah, Washington, and Wisconsin, for its excellent work in the "Green Marketing" area and commends its diligence in focusing attention on this mounting problem; and

2) endorses the Task Force recommendations a) to establish federally uniform definitions for environmental claims, testing protocols and standards and standardized methodologies for conducting product life assessments; b) to retain authority of the States to take action under State law, and c) to oppose preemption of State laws in this area; and

3) urges the Congress to adopt legislation such as S. 615 and H.R. 1408 which would encompass the recommendations set forth by the Task Force, including the recommendation that the States and the FTC be provided with enforcement authority; and

4) empowers the NAAG Environment Legislative Subcommittee to monitor developments on this issue and to represent the Association's views as reflected in the Task Force's *Green Report II* before the appropriate Congressional committees; and

5) authorizes the Executive Director and General Counsel to transmit this resolution and recommendations to the appropriate members of the administration, EPA Administrator Reilly, FTC Commissioner Steiger and other FTC Commissioners, key members of Congress, and other interested associations and individuals.

#### BACKGROUND STATEMENT

The restoration and protection of our natural environment has been an area of increasing concern in recent years. The scientific community is struggling to find solutions to waste disposal problems including recycling and the development of biodegradable materials. Federal and State government officials are struggling to develop the appropriate regulatory system that will stimulate technical advances, preserve our standard of living and restore the natural environmental balance. Manufacturers are likewise struggling with these issues, attempting to develop smaller product packages and move toward packaging materials that are in keeping with national environmental policy goals. Consumers have embraced these efforts as well, and products that are labelled "recyclable", "biodegradable", "compostable" or "environmentally friendly" have found an eager market.

A task force of 11 Attorneys General began to study this issue in November, 1989. A public forum on environmental marketing was held in Minnesota in March, 1990 and in November, 1990 *The Green Report* was issued which provided a comprehensive overview of the issue and problems. The task force found that, without any agreed upon standards or definitions, the unchecked use of terms such as "environmentally friendly" could be largely meaningless and consequently misleading to consumers anxious to do their part to protect the environment. The task force recommended that national standards governing the use of these terms be developed and advocated a joint effort be undertaken by the Environmental Protection Agency and the Federal Trade Commission to develop these standards.

Comments following the publication of the Green Report were incorporated by the task force and published in *The Green Report II* released in May, 1991. The task force reiterated the need for national standards defining environmental claims and voiced support for Federal legislation that mandates the development of national environmental marketing standards that do not preempt State enforcement efforts.

The attached resolution recognizes the concerns emanating over the relatively new practice of including environmental marketing claims on packaging and in advertising and supports the development of Federal legislation that will provide the necessary standards and guidance in this area.

The Congress will consider environmental marketing legislation in the context of reauthorization of the Resource Conservation and Recovery Act. The key players include Senator Lautenberg (D-NJ), sponsor of S. 615; Representative Sikorski (D-MN), sponsor of H.R. 1408; members of the Senate Environment and Public Works Committee, chaired by Senator Burdick (D-ND); and members of the Transportation and Hazardous Materials Subcommittee, chaired by Representative Swift (D-WA).

#### PREPARED STATEMENT OF DEBORAH BECKER

Thank you, Mr. Chairman. My name is Deborah Becker. I am Vice President, Environmental Policy with Kraft General Foods, the world's second largest food company and the largest in the United States. We employ 100,000 people world-wide. We operate 200 manufacturing plants and produce some 2,500 products packaged in a wide variety of packages. I am testifying today on behalf of the National Food Processors Association, the scientifically based association whose 500 member companies manufacture most of the nation's processed and packaged fruits and vegetables, meat, seafood and specialty products. In February of this year, NFPA and 10 other organizations petitioned the Federal Trade Commission for environmental marketing guidelines. The co-petitioners are the:

- American Association of Advertising Agencies,
- American Frozen Food Institute,
- Association of National Advertisers,
- Can Manufacturers Institute,
- Chemical Specialties Manufacturers Association,
- Food Marketing Institute,
- Grocery Industry Committee on Solid Waste,
- Grocery Manufacturers of America,
- International Dairy Foods Association, and
- Steel Can Recycling Institute.

NFPA developed this petition to achieve four goals:

1. To assure the free flow of information to consumers so they can make marketplace decisions based on fact;
2. To assure the truth and accuracy of environmental claims;
3. To provide one nationally uniform approach to environmental marketing to help stimulate investment on the part of industry; and
4. To foster competition to improve the environmental attributes of products and packaging.

Our petition includes a proposed FTC guide which would provide national guidance on how to avoid consumer deception. The guide identifies both safe harbors and minefields for environmental marketing. The proposal would guide companies regarding source reduction, recyclability, recycled content, compostability, and refillable/reusable claims.

The FTC held hearings July 17 and 18, 1991 in response to our petition, a report of a task force of State attorneys general led by attorney general Humphrey, and several other expressions of concern to the agency. Testimony on behalf of the co-petitioners at those hearings accompanies this testimony along with our original petition, a description of important research in the solid waste area which NFPA is

conducting and which I will discuss later. A complete list of these and other attachments appears at the end of this testimony and I request that they be entered into the record.

Our petition reflects a unique consensus among industry interests on how to best develop national uniformity in the environmental marketing area. An even broader consensus emerged at the recent hearings. There was nearly unanimous agreement that FTC guidelines are needed and would have a significant impact in removing deceptive claims from the marketplace and stimulating environmentally beneficial package and product innovations. The FTC hearings made clear that the vast majority of industries and companies are responsible and want to do what's right, but they need the benefit of FTC guidelines to be sure they are not risking regulatory or other legal consequences in providing consumers with truthful, non-deceptive environmental information.

The petition rests on the strong belief that the free market will respond to consumers' interest in environmentally beneficial products and packages. Significant environmental improvements will result. Indeed, the market has already begun to respond.

FTC guidelines are critical to assuring that the competitive engine of the American marketplace is running smoothly. With FTC guidance, more and more companies will compete for consumers' environmental loyalty. More and more companies will invest in environmental innovations when they know they can safely communicate environmental information to consumers.

The impact of FTC guidelines should not be underestimated. There are already FTC guidelines in other areas. Together they provide an impressive track record of industry compliance.

Guidelines not only indicate how the FTC views claims, they are also quickly incorporated into self-regulatory mechanisms such as network advertising clearance practices and investigations by the National Advertising Division of the Council of Better Business Bureaus, a widely followed self-regulatory mechanism of the advertising industry. In fact, the nad has announced that environmental marketing claims will be subjected to "significantly expanded review" and the guidelines proposed in our petition will be looked to as a primary resource in that process.

We know there are inconsistent State laws and regulations already on the books. We firmly believe, however, that FTC guidelines will forge a national consensus on environmental marketing. Attorney General Humphrey has provided valuable leadership. The report of his task force recognizes the importance of national marketing to our economy and way of life. Environmental marketing will simply dry up in the face of a multitude of conflicting State and even local laws. FTC guidelines and the leadership of Attorney General Humphrey and others will eventually result in consistency among the States.

I would now like to turn to S. 976 and S. 615, bills on which you asked for comment. Detailed responses to questions raised in your invitation to testify accompany this testimony. S. 976 would affect our industry in a wide range of areas, but my comments will focus on packaging and environmental marketing.

We are concerned about the extent to which provisions of each bill would undercut the free market's ability to deal with solid waste. Changes in our society that are likely to result from the solid waste issue are in their infancy. Measures proposed in these bills are premature and unnecessary.

The proposal in S. 976 to create a products and packaging advisory board is at complete odds with the foundation of our market economy. Consumers drive our economy. American businesses know all too well that consumers' values get reflected in consumer products or they do not survive. Consumers' impact on the marketplace is direct and immediate, like the influence of voters on government. Government interference with the marketplace, even through advisory standards, will slow progress by allowing companies to stop when they have reached government standards. Market driven solutions will spawn greater creativity and better results.

There are no good packages or bad packages. This is particularly true for food packages. Each type of package design and packaging material used for food plays a particularly critical role in delivering safe, wholesome food products to consumers.

Commodity specific recycled content requirements in the bill, even when conditioned upon failure to achieve certain recycling rates, likewise cause us concern. Arbitrary recycling rates or recycled content requirements, as would be required in S. 976 for food sold to the government, are not the answer when it comes to food packaging. For food packaging it is not just a question of availability of material. Technical considerations must be addressed to assure the safety of food. Food safety cannot be risked, even in addressing such a worthy goal as reducing municipal solid waste.

We are very concerned by any proposal which would undermine the longstanding and successfully employed authority of the food and drug administration in assuring that food packaging does not adversely affect the safety and wholesomeness of food products.

Specific performance characteristics are needed in food packages to protect food from physical damage, spoilage, or contamination. A food package must be able to withstand the stresses of processing, handling, storage and transportation throughout the distribution chain. Packaging materials must not impart off-odors or off-flavors to products. There must be no adverse chemical interaction with the food product. In many applications, gas-tight (hermetic) seals are critical to assure product safety and quality.

Arbitrary mandates for the use of post-consumer recycled materials could very well conflict with FDA's good manufacturing practices sanitary guidelines (GMP's) and overlook compliance with existing food safety laws and regulations. Mandated recycled content levels raise concerns about exceeding current technical capability and compromising either safety or product integrity.

A committee of NFPA members has developed a white paper entitled "food safe recycled content for food packages" which I am submitting with my testimony. It further elaborates on these food safety concerns.

The FDA has years of expertise in the relationship of food packaging to food safety and quality as reflected in nearly an entire volume of the code of Federal regulations. The safe use of recycled material in glass bottles and jars, steel cans and aluminum beverage cans, as well as paper packaging used in many food applications has been achieved under FDA's watchful eye. Further progress will also be monitored as these industries continue to make gains. And FDA is providing input to a joint NFPA/Society of the Plastics Industry research group which is working to develop methods and guidelines for the safe use of recycled plastics in food packaging. A complimentary effort is underway with FDA at the National Center for Food Safety and Technology outside of Chicago.

A brief description of the NFPA/SPI research is included with this testimony.

The market for positive environmental improvements is strong and our members know it. Our members want to make the environmental improvements in food packages that consumers want. But the FDA's careful and expert hand should continue to be the primary guardian of food safety as food packaging innovations occur.

We have three major concerns with S. 615. The proposal to give EPA authority over environmental claims is inappropriate. The FTC is the repository of knowledge and experience in consumer deception which is at the heart of dealing with these claims. In fact, EPA supported the promulgation of FTC guidelines at the FTC's recent environmental marketing hearings.

The kind of prescriptive requirements which the bill would set before certain environmental claims could be made would stifle innovation and positive environmental change. Arbitrary recycling levels, for example, will tend to freeze consumer perceptions and expectations and take the steam out of efforts to further recycling. If a company has no ability to make a recyclable claim, it will compete on the basis of other attributes of its products. Information concerning the considerable efforts of materials organizations to foster recycling will not reach the marketplace and consumers will assume, incorrectly, that many products and packages can not be recycled when the truth is they can be and will be soon.

We see no justification for the prior restraint envisioned in the preapproval process for environmental marketing claims contained in S. 615.

FTC guidelines will provide flexibility for companies to make a variety of truthful and non-deceptive claims. Consumers will benefit from the environmental information in the marketplace and the pressure will stay on for companies to be part of environmental solutions.

Thank you, Mr. Chairman.

#### LIST OF ATTACHMENTS \*

Attachment A: Testimony of the National Food Processors Association and 10 co-petitioners before the Federal Trade Commission, July 17, 1991

Attachment B: Petition of the National Food Processors Association and 10 co-petitioners to the Federal Trade Commission, February 14, 1991

Attachment C: Detailed responses to questions raised in July 19, 1991 letter to Deborah Becker from Senators John H. Chafee and Max Baucus

\* Attachments to this statement have been retained in committee files.

Attachment D: "Food Safe Recycled Content for Food Packages", a white paper on the safety issues involved in using recycled materials in food contact packaging  
 Attachment E: "Research Activities of the National Food Processors Association/Society of the Plastics Industries Task Force in Support of Expanded Use of Recycled Plastics in Food Contact Applications"

#### PREPARED STATEMENT OF LINDA BROWN

On behalf of the Green Cross Certification Co., I'd like to thank the Chairman and the members of the subcommittee for inviting us here today.

Let me begin by briefly describing the organization I represent. Green Cross was launched in the spring of 1990 as the first national, not-for-profit effort to independently certify manufacturer claims of environmental achievement. Our initial efforts have been geared to recognizing state-of-the-art accomplishments in specific claim areas, like recycled content and biodegradability. Our long term goal, meanwhile, has been to develop sound scientific protocols to identify companies and products that represent the best environmental choices overall.

In just over a year, we have verified claims for more than 400 consumer products, manufactured by some 80 companies of all sizes. Many other companies have come to us with claims which did not meet our certification standards. But our independent feedback has proven valuable, too, as it has helped companies focus more closely on the claims they are making. During this same time period, we have also been active with major retail chains across the country, helping them better understand environmental marketing claims so that they can provide more accurate information to their customers.

Our testimony here today draws on this actual experience in the field.

First, we believe that there is an urgent need for Federal legislation to regulate environmental labeling claims. Whether or not the Federal Trade Commission issues guides or sticks to case-by-case rule making, companies making legitimate environmental marketing claims deserve a clear mandate from our elected officials in Congress, supported by the expertise and guidance of the Environmental Protection Agency.

Legislation must be drafted to inspire rather than stifle progress. Senator Lautenberg's bill is an important step in the right direction. However, there are important ways in which we believe the bill could be strengthened.

For example, the time has come to move beyond simple distinctions between "pre" and "post" consumer waste. As it turns out, some "pre" consumer material is less valuable and therefore more likely to be discarded into the waste stream than some "post" consumer waste. More sophisticated definitions of waste are needed—definitions based on how much of a given material is being recovered, how difficult it is to reprocess, and how much is currently being recycled. We would be happy to provide specific guidance and recommendations in these areas to the subcommittee members.

Another critical area is the need for independent verification of claims. There's a lot at stake. It's not simply a question of market share. The environment is not a marketing gimmick; it is our future, and the future of our children. But without adequate protections, including verification of claims, environmental marketing could easily be treated like a gimmick, and lose all credibility with the consumer.

The Senate has two choices: to require credible verification, or to plan to spend lots of time and money chasing down green collar fraud. From our unique vantage point, I can only tell you that we've seen enough to know that this area is being abused. Some companies may resist the idea of independent verification; after all, nobody likes the idea of having outsiders come inside to conduct an audit. But in the long run, verification will ensure that companies with legitimate claims get the market place recognition they deserve.

Green Cross feels strongly that all environmental claims should be as specific as possible. Pretty green labels and seals which give a simple "thumbs up" or "thumbs down" to consumers fail to inform consumers about the limitations of their claims. These seals end up relying on celebrities to sell the idea, and play on consumer ignorance. Now, whether you believe that consumers are ignorant, or whether you believe they're smart, they deserve a chance to be informed. For it is the consumer, ultimately, who will determine the direction that industry goes. Our best hope, indeed our only hope, is to engage the consumer with information that doesn't sink to the lowest common denominator of intelligence, but challenges the consumer to participate in the process knowledgeably.

Finally, let me turn to the question of eco-labels and the role of life cycle analysis. Here's a term that a lot of people use, and few people understand. It's been called "cradle to grave" analysis, even "womb to tomb."

What it refers to is the most comprehensive science available for analyzing the full environmental impacts associated with industrial processes and the production of consumer products.

The science of life cycle analysis is complicated, because industrial processes are complicated. It is a fascinating study, one which we do not have time to delve into today. But what I must communicate to you today is that it is the only credible scientific methodology to date which is capable of considering all of the important environmental questions. Every other method we have looked at, every other method which has been proposed to date, has fallen short—and fallen into the trap of substituting arbitrary value judgements for thorough evaluation.

The problem with systems that rely on a limited number of arbitrarily chosen criteria for awarding eco-labels is that there are invariably important environmental issues that they fail to consider. Industrial progress is not a magic bullet. Often, companies have to make trade-offs to achieve perceived environmental goals. For example, the steel industry would have to considerably increase its use of energy to increase the recycled content levels in its steel cans. What appears to be the best environmental choice may turn out to be the worst choice in the long run. Again, I urge the committee and Senator Lautenberg to ensure that general seals of approval or eco-labels be grounded in a recognized life cycle analysis methodology.

Again, thank you for this opportunity to speak. We have included some suggested draft language for consideration as you discuss these issues further, and would be more than happy to assist the members of the subcommittee as you see fit.

#### PREPARED STATEMENT OF RICHARD A. DENISON

##### SUMMARY

The Environmental Defense Fund (EDF)<sup>1</sup> believes the Federal Government needs to act as soon as possible to rein in "advertising pollution." Consumers armed with accurate and reliable environmental information about the products they purchase have a critical role to play in shifting industrial production toward more environmentally benign processes and products. Responsible manufacturers willing to make genuine improvements have a right to know that their investments will not be undermined by their competitors' unchecked latitude to offer consumers false or misleading claims in place of improved products.

EDF believes that meeting these objectives will require a combination of efforts by different entities within the Federal Government:

*The Federal Trade Commission* should increase enforcement against those who make deceptive environmental claims. It should couple enforcement with the development of industry guides that articulate principles and criteria, based on existing FTC Policy, that will require environmental claims to be relevant, significant, specific, and substantiated.

*Congress* should adopt legislation directing the Environmental Protection Agency to develop and enforce measurable standards and definitions for the use of key terms in environmental claims; and

*The Environmental Protection Agency*, under this new statutory authority, should expeditiously promulgate and enforce regulatory definitions and standards that are technically based and are consistent with the dual objectives of preventing consumer deception and advancing sound environmental policy.

It is within this overall framework that EDF offers its comments for your consideration today and heartily endorses S. 615, "The Environmental Marketing Claims Act of 1991." This legislation has also been endorsed by the National Association of Attorneys General (NAAG), many of whose members have been in the forefront of efforts to control the use of environmental claims.

It is also important to note that we do not view labeling regulations as a sufficient means to achieve the needed increases in demand for and production of environmentally preferred products and packaging. While definitions and standards in this area are important for setting some of the groundrules for such improvements, other measures will be needed, such as recycled content standards, waste component-specific diversion rates, and a variety of other market development measures.

<sup>1</sup> A description of EDF and its interests and expertise in the issue of environmental claims is attached as Appendix I.

## I. THERE IS AN URGENT NEED FOR FEDERAL ACTION ON ENVIRONMENTAL CLAIMS.

The green market offers a potentially powerful market-driven force for environmental improvement. When consumers demand truly environmentally sound products, the market compels manufacturers to respond. In this way, consumer demand can help to prevent pollution at its source—the basic tenet of the pollution prevention thrust of recent Federal policy.

Recent studies<sup>2</sup> confirm the potential power of this market, demonstrating convincingly that consumers are actively seeking environmentally improved products: and packaging:

- A 1990 national NBC/Wall Street Journal poll found that 38 percent of surveyed consumers said they had regularly changed the types of products they buy and use because of environmental concerns. An additional 38 percent of consumers said they did so occasionally. (NBC/WSJ, 1990)

- Packaging magazine surveys in 1986, 1988, and 1990 found that the number of correspondents who consider the recyclability of packages in making purchasing decisions rose from 36 percent to 48 percent to 65 percent in the course of the three surveys. (EPA, 1989, p. A-10; EPA, 1990, p. A-1)

- A Gallup poll in 1989 found that 72 percent of Americans want to purchase food and beverages packaged in recyclable containers. (EPA, 1990, p. A-3)

- Another Gallup poll in 1989 found that 54 percent of Americans want to buy products packaged in recycled paper containers. (EPA, 1990, p. A-4)

- A 1990 Penn and Schoen national survey found that 74 percent of Americans said they are more likely to purchase a product in biodegradable or recyclable packaging. (Williams, 1990)

But harnessing such market mechanisms for environmental protection can only work when consumers have accurate, reliable information about the environmental advantages and disadvantages of the products they buy. Marketers are increasingly offering a wide variety of environmental claims<sup>3</sup>—and in some cases misleading or downright false claims have succeeded in at least temporarily garnering products (such as so-called degradable plastic trash bags) a larger market share. Some manufacturers appear all too willing to substitute false or misleading claims for actual environmental improvements in the products they sell.<sup>4</sup>

This willingness to make misleading claims threatens the green market because recent studies have confirmed that consumers are aware of, and indeed rely heavily on, environmental information displayed on products and in other advertising:

- A 1990 Roper poll found that 50 percent of Americans could recall seeing labels on packages that state environmentally safe or biodegradable. Consumers identified a wide array of individual products. Twenty-seven percent of respondents also recalled seeing television commercials making the same claims. (Roper, 1990)

<sup>2</sup>The bullets in this section are each followed by a reference in parentheses. The full references, which can be provided upon request, are as follows:

Abt, 1990: Abt Associates, Inc., "Consumer Purchasing Behavior and the Environment; Results of an Event-Based Study," November 1990.

Angus Reid, 1991: Angus Reid Group and Golin/Harris Communications, "Environment USA '91," national opinion survey, Chicago, IL, July, 1991.

EPA, 1989: EPA, "Promoting Source Reduction and Recyclability in the Marketplace," Office of Policy, Planning and Evaluation, EPA 530-SW-89-066, Washington, DC, November, 1989.

EPA, 1990: EPA, "Assessing the Environmental Consumer Market," prepared for EPA by Abt Associates, Inc., Office of Policy, Planning and Evaluation, Washington, DC, November 29, 1990.

Env. Res. Assoc., 1990: Environmental Research Associates, "Much 'Green' Marketing Wasted. . . ." The Environmental Report, Princeton, NJ, Vol. 1, Fall, 1990.

NBC/WSJ, 1990: Hart, P. and Teeter, R., April National Poll, conducted for NBC News and the Wall Street Journal between April 11-16, released April 20, 1990.

Roper, 1990: The Roper Organization, Inc., "The Environment: Public Attitudes and Individual Behavior," commissioned by S.C. Johnson & Son, Inc., July, 1990.

Williams, 1990: Williams, Simon, "The Green Revolution in Products and Packaging," reprinted from VM + DT Magazine, January, 1990, citing a telephone survey conducted by the polling firm of Penn and Schoen, Inc.

<sup>3</sup>According to Marketing Intelligence Service, Ltd., products making environmental claims are being introduced at a rate 20 to 30 times greater than that of other new packaged goods, growing to almost 10 percent of all new consumer product introductions in 1990. See The Marketer, April 1990, pp. 36-7; Boston Globe, March 2, 1990, pp. 55, 59. A JWT Green Print Ad audit found that the number of environmental ads in print and on television increase 400 percent between 1989 and 1990. See Comments of Persuasion Environmental Marketing, Inc. before the Federal Trade Commission, July 17, 1991.

<sup>4</sup>Several of the worst examples of false or misleading claims we have recently encountered are attached as Appendix II.



● This same poll found that most Americans say they "read labels on products to see if the contents are environmentally safe." Twenty-six percent of respondents say they do so on a regular basis, while another 36 percent say they do so from time to time. (Roper 1990, p. 68)

● An even more recent national telephone survey found that 61 percent of Americans say that they look for environmental labels. (Angus Reid, 1991)

● An Abt Associates study conducted in 1990 found that the most likely source of information about a product's environmental attributes was information printed on the package. Fifty-two percent of those respondents who purchased an environmentally oriented product identified material printed on the package as a, or the, way they "learned about the characteristics of the product that made it better for the environment than similar products." (Abt, 1990, pp. 2, 6).

Surveys reveal that consumers are also acting on the environmental information they see on products and in other advertising:

● The 1990 Roper poll found that 29 percent of respondents confirmed they had purchased a product because the advertising or the label said the product was environmentally safe or biodegradable. They could identify a broad array of individual products. (Roper, 1990)

● A 1989 Gallup poll found that 37 percent of consumers reported that they would be very likely, and another 33 percent fairly likely, to purchase a paper product bearing a recycled symbol when offered a choice between two products of comparable price and quality, with only one bearing the symbol. (EPA, 1990, p. A-4)

● A 1986 survey of supermarket customers conducted by ShopRite, a major northeastern supermarket chain, found that 71 percent said they would shop for the recycling symbol if it meant that it would decrease the amount of solid waste taken to landfills. (EPA, 1989, p. A-14)

And even while acting on environmental labels, consumers have indicated confusion about what claims can be trusted.

● The Abt Associates study which found that consumers relied on packaging claims also found that consumers were most skeptical of company advertising among sources of information about the effects of products on the environment. (Abt, 1990, p. 6)

● A 1990 survey asked whether consumers agreed with the following statement: "There are so many different claims about the environmental benefits of various products that it is hard to know what to believe." Fifty percent strongly agreed, and another 39 percent agreed somewhat. (Env. Res. Assoc., 1990, Executive Summary, p. 5)

In light of the proliferation of misleading claims on labels and consumers' reliance upon them, it can at best be said that the power of the green market hangs in the balance. It remains unclear whether manufacturers will indeed answer consumer demand and capture the green market by producing more benign products or will instead seek to capture it through slick and misleading marketing. And in the current climate where consumers find it hard to distinguish marketing hype from genuine environmental improvements in products, many responsible manufacturers see little incentive to improve their products or to advertise those improvements.

Only by ensuring that the green market provides accurate information to consumers and a level playing field for manufacturers can the balance be tipped in favor of real environmental gains. Government intervention is essential to ensure the accuracy and reliability of environmental claims.

Contrary to those who would argue that regulation of environmental claims unnecessarily impedes the free market and violates constitutional protections afforded commercial free speech,<sup>5</sup> such enforcement and regulatory activity is necessary to ensure the proper workings of market mechanisms. As one legal and constitutional analyst observed recently: "Enforcement and regulatory actions, which are carefully crafted to insure the free flow of accurate commercial information, are of vital importance to a free market system."<sup>6</sup> Moreover, because it invokes market mechanisms, government enforcement against deceptive claims provides one of the least intrusive ways of motivating environmentally beneficial changes in business prac-

<sup>5</sup>EDF has prepared a memorandum addressing the issue of the constitutionality of restrictions on environmental claims, documenting the wide latitude that government has to enforce against and regulate such claims. A copy of this memorandum is available on request to EDF. See also Wynne, R. "Defining 'Green': Toward Regulation of Green Marketing Claims," U. Mich. J. Law Reform, in press (see esp. Section III).

<sup>6</sup>McKenzie, "Ambiguity, Commercial Speech, and the First Amendment," 56 U. Cinn L. Rev. 1295, 1308 (1988).

tices. The Federal Government should feel no hesitation about vigorously regulating in this arena.

## II. EPA MUST SET REGULATORY DEFINITIONS AND STANDARDS FOR KEY TERMS USED IN ENVIRONMENTAL CLAIMS IN ORDER TO PREVENT CONSUMER DECEPTION AND TO PROMOTE SOUND ENVIRONMENTAL POLICY.

EDF strongly endorses S. 615, "The Environmental Marketing Claims Act of 1991." We do so because we believe that it will provide clear, technically based regulatory definitions and standards that both will complete the task of preventing consumer deception and promote sound environmental policy. We also believe that actions short of this—including the development of industry guidelines being considered by the Federal Trade Commission (FTC)—will be insufficient to achieve these objectives. Our reasoning is presented below.

### *Limitations to the FTC Role*

A claim is most clearly deceptive when it has a clear, specific meaning and it is factually false. Where terms lack a clear definition, however, a focus on preventing deception alone may be inadequate to prevent consumer confusion. So long as different manufacturers use terms differently, they may confuse consumers even if each use is not deceptive. EDF strongly believes that many terms used in environmental claims must be given an "official" definition that consumers can grow to rely on.

Business, government, consumer and environmental groups have all acknowledged that a major obstacle to responsible use of environmental claims is the absence of clear, specific definitions for key terms. The lack of specific definitions allows sellers to define terms in ways that serve their self-interest. For example, some promoters of so-called degradable plastics seek to define "degradable" as the loss of a certain percentage of tensile strength of the plastic in a certain length of time under standard laboratory conditions. Such a definition does not relate at all to what the term means to the average consumer. Nor does it necessarily relate to the real-world behavior of the material.

A more relevant definition formulated by an environmental expert would probably specify: (1) actual breakdown and assimilation by micro-organisms in a setting that represents existing waste disposal practices; and (2) demonstrated "safety" of the breakdown products in the environment.<sup>7</sup> But even this technical definition may not be adequate to ensure that the degradable attribute confers a significant environmental advantage. Here expert judgments are needed to determine whether degradability, despite its positive connotations, is environmentally desirable even if it is achieved in a technical sense: Will degradation of discarded plastic products extend the useful life of the landfill? Will the presence of degradable additives interfere with the process of recycling plastic?

And even broader policy considerations may well need to be addressed to ensure that promotion of products as degradable does not result in other environmental problems. Could promotion of products as degradable lead to increased littering? Might a consumer be less willing to seek ways to reduce his or her consumption of such products due to the "good feeling" that the claim gives them about using the product? If a conflict exists between degradability and recyclability, which should prevail?

The FTC could and certainly should insist that any claim of "degradability" be qualified by reference to the specific waste disposal practice in which the seller has a reasonable basis to believe the attribute of "degradability" offers an environmental advantage. FTC guidance could and should further insist that sellers can substantiate degradation in that environment. But the environmental expertise and environmental policy mandate that resides within EPA is needed to help factually identify in what, if any, contexts "degradability" does offer an environmental ad-

<sup>7</sup> As one measure of consumer perception of the safety of degradable plastics, in a 1989 Gallup poll conducted for Dow Chemical Company, respondents were asked to answer the following question: "When you hear the term 'degradable' used in discussions about the disposal of solid waste, as far as you know, does it mean that the material breaks down into elements that are completely safe for the environment or that it breaks down but still presents a threat to the environment?"

The responses were: 45 percent, completely safe; 45 percent still threatens the environment; 10 percent don't know.

These data indicate that consumers can interpret the term "degradable" quite differently, and more importantly, that a large number consider the attribute implicitly to represent an environmental benefit. See The Gallup Organization, "A Gallup Study of Americans' Concerns About Recycling and the Environment," conducted on behalf of Dow Chemical Company, Princeton, NJ, November 27, 1989, question 18a.

vantage and to define the technical specifications of degradability in that context. EPA also has a role to play in determining whether certain potential disadvantages of a "degradable" plastic—such as interference with recycling—are sufficiently significant as to require affirmative disclosure.

This rather lengthy example is intended to illustrate the need for action by, and the related but different roles of, both FTC and EPA in addressing environmental claims. The authority and expertise of each agency is necessary to accomplish the full task.

Recent statements by FTC Commissioners and staff indicate its recognition of the need for action beyond what FTC itself can undertake. For example, FTC Commissioner Azcuenaga has noted:

"Writing guidelines to define 'recycled' or 'recyclable' might require the Commission to travel far beyond its traditional territory. The commission usually judges whether a claim is deceptive by examining what consumers think the claim means. But some States have proposed minimum content standards for a 'recycled' product claim. If the Commission followed that approach in advertising guidelines, we would no longer be deciding what the use of the term 'recycled' means to consumers, but what 'recycled' should mean. . . . Although I have strong personal concerns about preserving the environment, I question whether the Federal Trade Commission is an appropriate governmental body to set environmental policy."<sup>8</sup>

Similarly, Barry Cutler, Director of FTC's Bureau of Consumer Protection has stated:

"In reviewing all types of green claims, we are interested in what those terms mean to consumers. These issues, however, also implicate environmental policy concerns, and may not be appropriately resolved solely by reference to FTC deception principles. . . . There may be legitimate environmental policy reasons to favor one approach over another, but the Commission is expert in identifying and preventing deception, not in establishing environmental policy for solid waste disposal. . . . That is not to say that legislatures, or agencies responsible for setting environmental policy, can not legitimately establish standards."<sup>9</sup>

#### *A Strong Analogy: The Role of the FDA in Regulating Nutritional Claims*

The regulation of environmental claims is, in many ways analogous to the regulation of health and nutritional claims for food products. Like nutritional and health claims, environmental claims are essentially unverifiable by consumers. And like general claims of nutritional or health benefits, analogous environmental claims have an inherently subjective, relative quality. For example, it is difficult to decide whether a lean hamburger is "good" because it has less fat than a fatty one, or "bad" because it has more fat than fish. Similarly, it is difficult to determine whether a thinner paper plate is environmentally "good" because it uses relatively little material or "bad" because it is still disposable.

Because of the inherent complexity of regulating nutritional claims, the Food and Drug Administration has been provided concurrent authority with the FTC to regulate these claims. Federal Food, Drug and Cosmetic Act, 21 U.S.C. Sec. 343. It has responded in many cases by promulgating highly specific technical requirements. The FDA has rules, for example, that elaborate milligrams-per-serving requirements for the use of the terms "sodium free," "very low sodium," and "low sodium." 21 C.F.R. Sec. 101.13. Similarly specific rules define "imitation foods." Health claims are generally banned except to the extent that the FDA itself will verify them, such as the link between dietary fiber and cancer. See Food Labelling; Health Messages and Label Statements, Reproposed Rule, 55 Fed. Reg. 5176 (Feb. 13, 1990).

These parallels between environmental and nutritional claims provide further evidence of the need for the analogous concurrent jurisdiction that would be provided by S. 615. EDF sees this activity as both critical and complementary to the development of FTC industry guides.

#### *The Inextricable Link Between Regulating Claims and Setting Environmental Policy*

Environmental claims inevitably raise environmental policy issues that must be addressed when seeking to delineate the truthful use of such claims. This is true for at least three reasons:

<sup>8</sup>Azcuenaga, Mary L., "Deceptive Environmental Claims: How Should the Federal Trade Commission Clean Up Advertising Pollution?" comments delivered to the Cosmetic, Toiletry, and Fragrance Association, Washington, DC, November 15, 1990, p. 15.

<sup>9</sup>Cutler, Barry J., Remarks delivered at the Soap and Detergent Association's 64th Annual Meeting and Industry Convention, Boca Raton, FL, February 1, 1991, pp. 3-4, 5-6, 7.

First, virtually all environmental claims use terms that refer to certain waste management technologies (e.g., "recyclable" or "compostable") or to societal environmental policies and priorities (e.g., "source-reduced" or "contains no CFCs"). In so doing, the claimant is explicitly or implicitly also stating that his or her product offers an environmental advantage with respect to the technology or policy. That claimed advantage must be evaluated, therefore, with respect to whether the product actually advances the technology or policy in question.

Second, if one subscribes at all to the potential power of the marketplace to affect positive environmental change, then one must acknowledge the inseparable nature of actions intended to limit deception and those intended to define environmental policy. That is, the reason one seeks to ensure that consumers are not deceived by a claim regarding, for example, the recyclability of a product is that promoting the recyclability of products is a desirable policy.

Third, consumers themselves understand the terms used in environmental claims in the context of broader environmental policies. For example, consumer research demonstrates that in choosing to buy a "recycled" or "recyclable" product, consumers believe that they are helping to reduce the solid waste problem. EPA recently reported the findings of a poll that found that 71 percent of shoppers surveyed at stores of a major supermarket chain said they would buy products bearing a recycling symbol if doing so would reduce the amount of solid waste sent to landfills.<sup>10</sup> That is, consumers seek recycled or recyclable products because they believe that recycled and recyclable products are environmentally preferable; their individual actions cannot be viewed separately from their desire to affect a social "good," that is to advance environmental policies that rank recycling higher than disposal and seek to increase industry's use of recycled materials.

This is all to say that, in the arena of environmental claims, taking steps to avoid consumer deception—a task that FTC could in other arenas accomplish on its own—invariably raises environmental policy considerations that demand the regulatory attention of EPA.

### III. KEY CONSIDERATIONS IN DEFINING TERMS AND SETTING STANDARDS

S. 615 embodies a number of critical elements to which EPA would be required to prescribe in defining and settings standards for the use of terms in environmental claims. These include the following:

- Definitions and standards should be as consistent as possible with consumer understanding and expectations of the terms.
- Definitions and standards should require that claims be specific, substantive, and substantiated.
- Definitions and standards should be materials-neutral and readily measurable.
- Definitions and standards should provide manufacturers with strong incentives to improve their products.

Below we discuss how these characteristics apply to specific terms addressed in S. 615.

*Generalized Claims of Environmental Benefit:* A wide variety of claims have been made that state or imply that a product is environmentally benign. Examples include "environmentally friendly," "environmentally safe," "green," "earth friendly," and numerous others. Such statements claim that a product has no adverse impact on the environment.

Sometimes, broad statements that a product is absolutely benign have been restricted to a particular use or particular disposal method. Examples include "safe to incinerate," "safe to landfill," and "non-toxic when incinerated." In such contexts, the terms "safe" and "non-toxic" can be reasonably inferred to mean no adverse environmental impact when used or managed in the indicated manner.

Statements like "environmentally safe" will in almost all cases be false. It is an unfortunate truth of human existence that virtually nothing we produce or consume lacks some adverse environmental impact; our goal must be to keep those impacts to a reasonable minimum. Similarly, any incineration or landfill disposal will have some adverse environmental impact, even if that which can be attributed to a single product is small or indeterminate.

There is almost universal agreement that such claims should not be used. S. 615 would limit such claims by requiring that claims be related to a specific attribute or environmental impact of a product and that they be substantiated.

<sup>10</sup> EPA, 1989: EPA, "Promoting Source Reduction and Recyclability in the Marketplace," Office of Policy, Planning and Evaluation, EPA 530-SW-89-066, Washington, DC, November, 1989, p. A-14.

*"Recycled Content":* The environmental advantage that consumers ascribe to a given term reflects their understanding of the term. For example, it is almost universally acknowledged that consumers reasonably interpret an unqualified claim that a product is "recycled" to mean that a large proportion (if not all) of its content consists of recycled materials. In addition, many reasonable consumers are likely to believe, absent clarification, that a recycled claim refers only to post-consumer waste. Empirical support for this common-sense proposition is found in a recent public opinion survey in which respondents indicated that the pollution problem they most want consumer products to minimize is post-consumer solid waste.<sup>11</sup> Similarly, the great majority of consumers (67 percent in a recent poll) interpret recycled content and recycling as referring to a "closed-loop" process of "re-manufacturing into the same product again and again."<sup>12</sup>

S. 615 embodies these expectations by setting aggressive standards based on post-consumer waste content for the unqualified use of the term "recycled." The standards balance a pragmatic consideration of current "state-of-the-art" in the ability to use recycled materials and the need to be materials-neutral with the need to challenge industry (the standard is ratcheted upward over time both to reflect and to motivate improvements in technology and markets).

*"Recyclable" and "Compostable" (or "Degradable"):* EDF believes that these terms are of limited utility to consumers and are often likely to be deceptive. Consumers whose communities have curbside recycling programs (or the equivalent) are likely to know which products are accepted in those programs. Consumers who are interested in recycling at a drop-off facility will need to learn from that facility what materials it will accept. The same is true of communities with composting facilities. The term "recyclable" or "compostable" on a product is therefore likely to lack utility for precisely those consumers for whom it has the potential to be significant. Moreover, the terms are likely to mislead many consumers who do have access to recycling or composting programs to believe that unaccepted products are in fact accepted in the program. Managers of curbside recycling programs around the United States have reported cases of consumers depositing unaccepted products in their recycling bins because of advertised claims of recyclability.

Definitions and standards for these terms must account for the fact that "recyclable" and "compostable" do not merely mean technically recyclable or compostable. If they did, virtually all products would be recyclable because virtually all products can at some cost be remanufactured into other usable products; a similar principle applies to products that can technically be composted. "Recyclable" and "compostable" only have significance as an expression of consumer access to recycling and composting facilities. That capacity is typically a function of the economic as well as technical viability of recycling or composting a certain product, which in turn reflects many other factors associated with the collection, processing, and marketing of the recycled or composted material.

Because of their limited utility, EDF believes that use of the terms "recyclable" and "compostable" should be discouraged as inherently misleading unless they are tied directly to: (1) a clear and full disclosure of the availability of recycling or composting programs; and (2) instructions to consumers about how they may recycle or compost the product in question. EDF believes that even such modified claims as "recyclable (or compostable) where facilities exist" are likely to imply to many reasonable consumers that the product is recyclable (or compostable) in their local programs (even in cases where it is not), or that the product is much more broadly capable of being recycled (or composted) than it is.

For the reasons just discussed, setting a national standard for the use of these terms is extremely difficult. S. 615 has taken the approach of requiring that a minimum level of actual recycling or composting be achieved before the term can be used. In effect, the actual recycling or composting rate serves as a surrogate, albeit imperfect, for both demonstrated feasibility of and consumer access to the recycling or composting option. The required rates, which would be ratcheted up over time, are chosen to balance the need to be materials-neutral and to challenge industry with pragmatic consideration of current and projected achievable levels of recycling or composting.

While this approach is reasonable, consideration of additional means to ensure meaningful access is warranted. For example, claims of recyclability or compostabi-

<sup>11</sup> Abt Associates, Inc., "Consumer Purchasing Behavior and the Environment; Results of an Event-Based Study," November 1990, pp. 2, 8.

<sup>12</sup> Glass Packaging Institute, "Gallup Poll Says Americans Favor Curbside Recycling," press release reporting the results of an October 1990 national survey, Washington, DC, December 18, 1990.

lity could be required to be accompanied by a clear indication of the proportion of communities in which the product is sold that have access to programs or facilities that will accept the product for recycling or composting. In addition, the advertiser could be required to prominently indicate how consumers can determine whether such recycling or composting facilities or programs exist in their communities. S. 615 is currently silent on how recycling or composting rates would be measured. We believe that more specificity is needed on this point, and in particular recommend that such rates be measured on a regional rather than national basis, as a practical means of raising the likelihood that a greater proportion of the national population has significant access to recycling or composting options.

*Special Considerations Applicable to "Degradable" or "Compostable":* Even with the above qualifications, a claim that a product is "degradable" or "compostable" is likely to be misleading unless it prominently limits any implication of environmental advantage to the manner of disposal or management in which the quality of degradability or compostability has been shown to environmentally advantageous (i.e., relevant, desirable, and safe <sup>13</sup>).

In few waste disposal options is degradability or compostability an environmental advantage. Compostability is obviously irrelevant in any method of solid waste disposal other than a composting facility that accepts the product. Degradability is irrelevant, and arguably harmful, in landfills that are specifically designed to limit degradation. And such claims are obviously irrelevant if the product in question is incinerated or recycled. Use of these terms therefore has a high potential to be misleading by implying a general environmental advantage that is only true in limited circumstances. A seller must prominently indicate those limited circumstances in using such terms. S. 615 would require such a disclosure.

Many claims involving these terms have been found to be entirely unsubstantiated upon examination. Degradable plastics in particular have been found not even to deteriorate (let alone actually degrade in any real sense) at any significant rate in most relevant settings. Moreover, they have been found to produce or at least pose additional environmental problems. For example, degradable plastics can release toxic additives in settings where they do break down; and in wildlife settings, the generation of small pieces of plastic from a large one may increase the risks of ingestion by wildlife even if it lessens the risks of entanglement. S. 615 would require demonstrations to address some of these concerns. For example, products claiming to be compostable or degradable would be required to document that they decompose completely and safely, producing no synthetic or toxic residues, in a time frame compatible with the setting in which such materials are placed.

Fully addressing the question of the environmental advantage of this category of claims will clearly need the expertise of EPA. Determining the appropriate role (if there is one) in solid waste management of enhancing the degradability or compostability of specific products raises many larger policy concerns, one of the key reasons for the high degree of controversy surrounding such claims.

#### IV. STATE PREEMPTION

EDF strongly believes that Federal efforts to control environmental claims should be done in a manner that supplements rather than supplants efforts being taken by both environmental and consumer agencies at the State level. In this regard, we wholly concur with the rationale and the recommendations of both the national Association of Attorneys General and the EPA in testimony given at FTC hearings earlier this month, that Federal action should not preempt more aggressive State action. From the perspectives of both consumer protection and environmental regulation and policy, State authority to take actions that go beyond the "floor" established by Federal agencies is critical to ensure full enforcement and to account for State and local needs and priorities which may vary from those perceived by or facing Federal agencies. FTC guidance and EPA definitions and standards should and undoubtedly would be influential, but States need to retain flexibility to address their particular concerns.

In solid waste management, for example, both Federal statutory mandates and the relative dearth of Federal activity have created a situation in which primary responsibility for developing and implementing policy as well as regulation lies with the States. Just as management approaches and policies vary from State-to-State, so too must States retain authority and flexibility to adapt Federal requirements to their own management systems and policy needs and priorities. As one example, consider a State such as Rhode Island that recently adopted a definition of "recycla-

<sup>13</sup> See footnote 7.

ble" that includes only those materials collected in its now statewide curbside recycling system, which are being collected at rates that will in many cases exceed those set out in S. 615. Rhode Island's aggressive development of large-scale recycling should not be compromised by requiring that its standard be scaled back to the Federal floor. Moreover, appearance of the term "recyclable" on materials not acceptable in Rhode Island's program could lead consumers to place such items in their curbside bins, thereby wreaking havoc on an otherwise successful system.

Finally, it is not reasonable to expect that the Federal Government can account for and address all possible or even likely situations in this complex and changing area. Retaining the latitude of States to go further is critical in this regard.

#### V. THIRD-PARTY CERTIFICATIONS AND SEALS OF APPROVAL

It can be argued that third-party certifications and seals of approval to some extent violate the principle that environmental claims should be specific, not general. They may differ from such generalized claims made by the advertiser alone, however, to the extent that consumers understand that these certifications represent a factual statement of approval by a specific third party and not a generalized claim of environmental advantage. Indeed, certifying entities often have utility precisely because the overall process of weighing the merits of a product is too complex and subjective to be satisfied by mere factual disclosures. The American Automobile Association certification of hotels, for example, is valuable in part because a mere disclosure of individual pieces of factual information would not adequately allow customers to evaluate the hotel. An AAA certification means the hotel passes AAA criteria, not that it is "good" on an absolute scale.

While we share many of the concerns raised in the recent Green Report II developed by a task force of State attorneys general regarding potential abuses by third-party certification systems, EDF does not consider proper enforcement and regulation of environmental claims to be incompatible or at odds with the activity of such entities or with the development of seals of approval. But because certification programs are subject to abuse, EDF believes that Congress should examine the possible need for regulating such programs as it considers new legislation.

S. 615 would allow the development of "seal of approval" programs upon a finding by the EPA Administrator that "such seals are awarded according to objective criteria that promote environmentally preferable products and packages." This provision gives EPA the ability to ensure that such programs are held to standards consistent with the principles articulated in our testimony and embodied in S. 615.

EDF appreciates the opportunity to present its views today, and would be pleased to offer its assistance as the subcommittee considers S. 615 and the issue of environmental claims.

#### APPENDIX I

##### EDF'S INTEREST AND EXPERTISE IN ENVIRONMENTAL CLAIMS ISSUES

The Environmental Defense Fund is a national, not-for-profit environmental advocacy organization. It is supported by more than 200,000 members and staffed by scientists, economists and lawyers working in seven offices nationwide. For several years, EDF has been a leading advocate of the need for controls over the use of environmental claims to ensure the conveyance of responsible information to consumers and to provide a level playing field for manufacturers. Among EDF's activities in this area are the following:

- EDF provided oral and written testimony at public hearings held by the Federal Trade Commission on July 17-18, 1991. EDF argued for the need for FTC guidelines to address deception in environmental claims, but cautioned that the expertise and environmental policy mandate of EPA is needed to define and set standards for terms used in environmental claims, as a supplement to the FTC role. EDF offered to FTC its own proposed guidelines covering both general and specific environmental claims.

- EDF was one of the first groups to draw public attention to the questionable or false claims made by marketers of so-called degradable plastics. EDF jointly released a report and called for a consumer boycott of such products in December 1989, based on both extensive research into the foundation for degradability claims and the significance of the larger environmental policy implications associated with promotion of such products. Our call for a boycott was followed by announcements of investigations into such claims by the FTC and a State Attorneys General Task Force. EDF has assisted both entities in their investigations, providing written information and meeting with staff on several occasions. In addition, an EDF Senior Sci-

entist prepared to serve as an expert witness for several States in lawsuits brought against a marketer of degradable plastic trash bags until these lawsuits recently settled out of court.

- EDF provided testimony at a public forum on environmental claims sponsored by the State Attorneys General Task Force and the FTC, held in St. Paul, MN in March 1990.

- EDF has worked extensively on model State legislation governing environmental claims, jointly developed by the Northeast Recycling Council and the Source Reduction Council of the Coalition of Northeastern Governors. EDF has also provided comments on individual States' proposals for regulations in this area.

- EDF was a member of the Steering Committee of the Conservation Foundation's recently completed project on Strategies for Source Reduction, which was sponsored by EPA and offered recommendations to the Agency on the issue of environmental claims.

- EDF has been extensively involved in the related issue of product lifecycle assessment (LCA), through its serving on the LCA advisory group of the Society for Environmental Toxicology and Chemistry (SETAC). SETAC sponsored a week-long workshop on LCA methodologies last August, and is currently planning a follow-up workshop for early 1992. The Conservation Foundation's project mentioned above also examined this issue in detail and held a policy-oriented LCA forum in which EDF participated.

- EDF serves as a member of the Board of Directors of Green Seal, Inc., a not-for-profit, third-party certification enterprise.

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#### PREPARED STATEMENT OF RAJEEV G. BAL

Webster Industries would like to thank Chairman Baucus and the committee for holding these hearings to forward sound environmental policy and, in particular, for your leadership regarding environmental labeling.

Webster Industries is one of the nation's leading manufacturers and distributors of recycled content plastic trash bags and merchandise bags. We recycle over 50 million pounds of plastics each year and are proud to lead the industry in the percentage of recycled content in our products, 25 percent of which is postconsumer material. We strongly support recycling as a means to help solve the nation's solid waste problems.

*(1) Webster Industries strongly supports national legislation that will set uniform definitions for environmental claims and mandate minimum content standards for recycled content claims.*

National legislation will:

- protect companies that are manufacturing truly environmental products from unfair competition by companies making invalid or false claims thereby eroding consumers' trust in environmental products.

- provide a level playing field for small and large companies as well as across industry groups, such as plastic versus paper.

- eliminate the "gray" area inherent in the interpretive nature of guidelines and clearly distinguish between intentional and unintentional fraudulent claims by eliminating loose, case-by-case interpretations.

- de-politicize the environmental claim arena and shift the focus of effort from the legal and political arenas to actually achieving meaningful standards and advancing recycling.

As you know, the Federal Trade Commission held hearings last week regarding environmental labeling. Webster Industries testified in support of rules and regulations rather than guidelines:

- guidelines will not create the much needed impetus across many industry groups to develop new environmental technologies, to invest in environmentally sound processes and to manufacture new end-products utilizing recycled material.

- in addition, guidelines will not provide the much needed adherence to standards necessary to alleviate the consumer confusion regarding environmental claims which I am sure you appreciate given current polling data.

*(2) Unified, national definitions for environmental claims will alleviate consumer confusion and provide the impetus for industry to compete in the environmental marketplace.*

Standard definitions will also eliminate the use of several interchangeable terms for the same product material, such as "reprocessed material" and "postconsumer waste", adding to existing consumer confusion.



Standard definitions, for terms such as "recycled content", "postconsumer waste", and "preconsumer waste", will:

- provide a consistent, unified message to consumers and ensure consumers that "recycled content", for example, refers to the same waste materials, such as industrial and consumer waste, on all package and product claims.

- create a level playing field across industry groups in that plastic and paper, for example, have equally strict definitions for recycled content material allowing consumers to make informed commodity choices.

- establish consistency across States, and even within States, regarding the use of terms such as "recyclable."

- alleviate the need for national manufacturers to incur expensive packaging changes to meet varying definitions which would likely be passed on to consumers.

Also, national definitions should exclude misleading or meaningless terms such as "environmentally friendly" or "environmentally safe."

*(3) In addition, national legislation should mandate minimum recycled content standards for recycled content claims.*

We support Senator Lautenberg's measure that "recycled content" product claims should only be allowed on products containing at least 25 percent postconsumer waste. However, we strongly feel that companies not meeting such a content standard should be prohibited from making a recycled content claim.

By setting a realistic but tough minimum recycled content requirement, consumers would be assured that claims such as "recycled content" represent a meaningful product attribute. Environmental claims must not only be truthful but meaningful as well. For example, a claim such as "contains 1 percent recycled content" may, in fact, be truthful but places the burden of interpretation for meaningfulness on consumers.

In addition, the interpretation of recycled content levels negates the full advantage of national legislation, such as clarifying environmental claims to encourage consumers to purchase recycled content end-products.

*(4) While as a national manufacturer we would prefer national legislation that preempts State legislative measures, we understand that preemption is a controversial issue. A possible compromise position would be to allow States to exceed the national minimum recycled content requirement provided they adhere to nationally set definitions for environmental terms.*

In addition, States that want to utilize logos and emblems should only be able to do so on a voluntary basis. Mandatory logo use, which places an unfair burden on small and mid-size companies making smaller packaging runs than large firms, should be prohibited at the State level. Varying definitions also add costs to manufacturers for packaging changes that are likely to be passed on to consumers.

*(5) The legislation should mandate that specific environmental information be listed on actual product packages for environmental product and packaging claims.*

Similar to nutritional labeling requirements, manufacturers making environmental claims should be required to list the percentage of recycled content on the actual product packaging, for example: 30 percent—virgin polyethylene resin; 30 percent—recycled postconsumer plastic waste; 30 percent—recovered industrial waste; 10 percent—color concentrate.

By clearly communicating environmental product attributes, consumers will know how to interpret environmental claims and will be able to make environmentally sound purchasing choices. This will increase competition as the "green consumer" segment continues to represent a growing percentage of purchasing power—resulting in environmental technological advances and increased corporate environmentalism.

*(6) The legislation should focus on recycled content attributes rather than commodity-based recycling rates.*

Consumers need to be able to identify products containing recycled content and to choose between products within a category based on environmental attributes. Commodity-based, industry averaging, while achieving the goal of solid waste reduction, will not recognize companies at the forefront of environmental efforts and will allow lax companies a free ride.

Commodity-based recycling rates will shift the focus from encouraging industries to enter the recycling arena to placing the burden on existing progressive environmental companies within a given industry.

*(7) The definition of plastics should be more explicit to include film products such as merchandise bags, trash bags and the like.*

For example, plastic trash bag and merchandise bag manufacturers are currently producing recycled content end-products. In addition, there is an influx of direct consumer recycling programs, such as grocery bag collection centers in retail stores. The legislation should contain measures to encourage and forward endmarkets for these recyclables.

*(8) As long as the definitions are clear and set at the national level, the distinction between intentional and unintentional claims becomes extremely evident—making case-by-case enforcement the most cost-effective and flexible enforcement option.*

In addition, the Environmental Protection Agency (EPA) should be mandated to provide definitions for environmental terms and minimum content specifications.

Minimum content standards and definitions should be periodically reviewed by the EPA as well to reflect technological advances.

Companies should be required to submit substantiation and verification for all environmental claims to the EPA for review.

#### SUMMARY

- Webster Industries supports national legislation which includes consistent, uniform definitions as well as minimum recycled content standards.

- Manufacturers should be required to meet a minimum recycled content level in order to make a recycled content claim.

- While as a national manufacturer we would prefer national legislation that preempts State legislative measures, we understand that preemption is a controversial issue. States should be allowed to exceed the national minimum recycled content requirement provided they adhere to nationally set definitions for environmental terms.

- Similar to nutritional labeling requirements, manufacturers should be required to list specific content information relating to an environmental claim on actual product packaging.

- National legislation should focus on recycled content rather than commodity-based recycling rates per industry. Recycling rates do not recognize companies at the forefront of environmental efforts and allows lax companies a free ride.

- The legislation should include plastic bags in the definition of plastic products and encourage markets for these recyclables and consumer endproducts.

- The Environmental Protection Agency should utilize its expertise in developing definitions and specifications for minimum recycled content standards. Such standards should be reviewed periodically and revised to reflect technological advances.

#### PREPARED STATEMENT OF MELINDA SWEET

I am Melinda Sweet, Assistant General Counsel of Unilever United States, Inc. ("Unilever U.S.") and Director of Environmental Affairs of its Lever Brothers subsidiary. Unilever U.S. appreciates the opportunity to present its views and those of the Grocery Manufacturers of America, Inc. ("GMA") on consumer product packaging, environmental labeling and other issues pertaining to S. 976.

Unilever U.S. has eight consumer products operating companies in the U.S., which include Lever Brothers Company, Thomas J. Lipton and Chesebrough-Pond's. Overall, the Unilever U.S. companies employ 26,000 people in 25 States and manufacture household products, foods, personal products and specialty chemicals.

GMA represents major manufacturers of food and non-food products sold in retail grocery stores. Its members produce 85 percent of the packaged food products sold domestically, employ some 2.4 million people and have gross annual U.S. sales exceeding \$280 billion. I am a member of GMA's Solid Waste Solutions Task Force and its RCRA Working Group.

Unilever U.S. and the grocery industry support the EPA's hierarchy of integrated solid waste management activities, namely source reduction, recycling and re-use, waste-to-energy incineration and safe landfilling. We are currently working toward reducing waste at the source by minimizing packaging; incorporating the maximum amount of recycled materials in our packaging (where technology and supply permit); designing packages that are recyclable or reusable; and recycling waste in our own manufacturing facilities.

Before I focus on the specifics of S. 976, I would like to outline the underlying philosophy with which the Grocery Industry Committee on Solid Waste ("the Gro-

cery Industry Committee") has approached evaluating and developing solid waste solutions. The Grocery Industry Committee is an unprecedented coalition of manufacturers, distributors and retailers advocating market-based solutions to the solid waste problem. Membership includes 20 senior executives from all sectors of the industry, and representatives from nine grocery industry trade groups. The following suggested criteria for successful solid waste solutions are contained in a "White Paper" developed by the Grocery Industry Committee and endorsed by all of its participants:

- Any system(s) should be based upon the Environmental Protection Agency ("EPA") hierarchy and encourage the development of an integrated solid waste management infrastructure;
- Solutions must be market-based and voluntary to ensure economic efficiency and sustainability;
- Solutions must not "balkanize" the marketplace with disparate packaging and labeling standards from State to State; the retention of a nationally uniform system will be crucial to its long-term success;
- Solutions should seek to maintain equity for all parties, without unduly burdening any one segment of the marketplace;
- Systems must be based upon sound waste management planning and the establishment of realistic waste reduction goals;
- Flexibility to meet differing conditions in regions and localities with an appropriate mix of waste management alternatives must be preserved; and
- Responsibility for addressing solid waste issues should be appropriately distributed among Federal, State and local governments—and should involve the public and affected businesses.

Within these goals and given resource constraints, we believe the Federal Government's role should include, but be limited to, the following:

- the provision of technical and educational guidance, not only to State and local authorities, but also to the general public and the private sector;
- the encouragement of uniform national guidelines in areas such as product labeling;
- the establishment of environmental safety standards for all municipal waste handling facilities;
- the encouragement and provision of limited incentives to establish end markets for recycled materials; and
- provisions to encourage capacity assurance and the resolution of siting disputes for needed waste management facilities.

#### THE VOLUNTARY-DRIVEN APPROACH IS WORKING

Unilever U.S. believes its responsibility to the environment is an abiding one, neither superficial nor based on short-term advantage. We are committed to finding solutions based on sound science and economics, and to assessing, continually, our initiatives toward achieving higher environmental standards. We believe that sound environmental management practices must ensure that consumers receive responsible environmental products without sacrificing the safety, quality and convenience they have come to expect and trust. We select packaging and raw materials with great regard to their environmental attributes, such as recyclability, recycled content and biodegradability, and continually strive to limit the amount of packaging to only what is necessary for the safety and consumer acceptance of the product.

Any Federal or local solid waste management program should recognize that consumers may be reluctant to buy products in packages that compromise other desired characteristics regardless of their environmental attributes. Therefore, we believe that legislative solutions should be developed in the overall context of consumer safety and acceptance. The requirement of providing packaging that meets a variety of demands, including health and safety, product protection, durability, consumer value, and merchandising appeal, should be carefully balanced with the need to conserve energy and minimize waste. The need to weigh these factors is critical in developing workable Federal legislation.

The grocery industry voluntarily has been expending substantial resources to re-design packaging to contribute to the alleviation of the solid waste problem. We believe that our efforts to incorporate recycled materials in our packaging and to design packages that are capable of being recycled are an example of marketplace solutions at work today. We believe industry initiative is preferable to government regulation. The bottom line is that market driven activities foster innovation.

Any attempt now to govern a market that will exist nine years from now, in the year 2000, is unwise since the history of recycling is short and rapidly evolving. To legislate recycling rates and national minimum content standards without longer

term data on what infrastructures for collection and processing actually exist, and what markets are developed, is to act prematurely and precipitously. Our industry has made dramatic progress toward diverting recyclables from the landfill. Since the avowed goal of waste management is waste diversion, we believe we should be allowed to continue on this industrious path, particularly in these times of rapidly changing developments and the identification of promising innovative technology.

As part of Unilever's corporate environmental philosophy, we firmly believe that the best and most efficient way to further the development of infrastructures and economically viable markets for materials such as plastics and paperboard, is through voluntary alliances with government, industry, trade associations, community and environmental groups and consumers. If there is a Federal role here, it is to develop a partnership approach with this alliance and to spur marketplace solutions through new economic incentives and technical assistance.

#### SOURCE REDUCTION

Unilever U.S. companies consider source reduction a top priority and are actively working toward reducing packaging at its source for both environmental and economic reasons.

In "National Geographic" (May 1991), the renowned garbage archaeologist William L. Rathje points to the business practice of "lightweighting" as a key factor in leveling off the volume of plastic packaging in the Mallord North Landfill in Illinois between 1970 and 1986. He says:

"... businesses seek to eliminate excess packaging with the same fervor as the most ardent environmentalists. The standard technique for edging out the competition is 'lightweighting'—making the same item with less material. The two-liter soda bottle that was 68 grams in 1977 is now 51 grams; plastic gallon milk jugs have gone from 98 to 60 grams. Lighter means not only thinner but also more crushable. There are indeed more plastic products, but they have not grown faster in volume than refuse overall. Glass too has been lightweighted into thinner containers."

Indeed, the grocery industry and its materials suppliers are leaders in the design of new products and packaging that reduce the weight and volume of waste generated. For example, Lever Brothers Company ("Lever"), manufacturer of household products such as Wisk laundry detergent, has launched Wisk Power Scoop, a super-concentrated powdered laundry detergent in a package representing an average 39.25 percent source reduction when compared to packaging for conventional laundry detergents on a per use basis. Lever has also begun lightweighting its plastic household product bottles, and by the end of this year will be lightweighting 67 percent of its bottles. This will save the equivalent of 13.7 million bottles from the waste stream.

Chesebrough-Pond's USA Co., manufacturer of personal care products, has lightweighted its Cutex nail polish remover bottles by 15 percent, resulting in a 355,500 pounds-per-year reduction of virgin high density polyethylene ("HDPE"). Thomas J. Lipton Co., manufacturer of teas, soups and nutritious snacks, has reduced the size and thickness of its Sunkist Fun Fruit cartons and pouches by almost 11 percent and 10 percent respectively. Our margarine manufacturing company, Van den Bergh Foods, has reduced the amount of plastic in its margarine tubs by 24.5 percent, resulting in approximately 6.5 million pounds less plastic waste per year. All Unilever U.S. consumer product companies, prior to the passage of State laws, voluntarily eliminated the use of heavy metal pigments in their packaging. We have also molded the Society for the Plastics Industry codes into our plastic containers for identifying plastic resins to facilitate recycling.

For both sound economic and environmental reasons, our industry has been successfully reducing the volume and weight of packages over a long period of time and intends to continue building on its substantial record of achievement. Many companies, including Unilever U.S., are establishing voluntary source reduction goals and are already using the suggested formulas for calculating weight and volume reductions developed by the Coalition of Northeastern Governors ("CONEG").

GMA members believe that it is in our nation's best interests to encourage the use of appropriate pollution prevention practices by industry, as noted above, have made great strides in achieving its goals for the products that they sell. While grocery manufacturers fully support prudent pollution prevention, we believe that the proposed toxic use and source reduction requirements under Title II of S. 976 are unwarranted and ill-timed. We have serious concerns about these very detailed toxic use/source reduction requirements for several reasons.

First, the exclusive focus on toxic use reduction as a means of pollution prevention unnecessarily and unproductively restricts industry's ability to use more effective alternatives to reduce pollution. This approach could act to disrupt severely plant operations in certain cases without providing any additional environmental benefits over much more effective pollution prevention techniques. For example, there may be cases where recycling or the implementation of new pollution control technology would allow a facility to substantially reduce the volume of pollution it generates, without significantly affecting plant operations, while even a slight reduction in use of a particular chemical could severely disrupt plant operations.

Rather than requiring specific command-and-control measures, we believe that Congress should provide appropriate market incentives to allow industry to look at a broad range of innovative techniques for reducing pollution. These incentives should encourage industry to take into account the different opportunities for pollution prevention available at particular plants based on their age, type of equipment and related factors. From a national policy perspective, we also fear that the focus of S. 976 on toxic use reduction will create market deterrents to the development of innovative recycling and pollution control techniques.

GMA member companies believe it would be far more prudent first to allow the Pollution Prevention Act of 1990 to take effect before implementing the toxic use/source reduction program proposed under Title II of S. 976. Our current base of information on toxic use and source reduction is insufficient for establishing a sound regulatory program at the present time. Absent more information, it is possible that the proposed program in Title II would result in many unnecessary or unproductive requirements on certain segments of industry, while ignoring various other more serious pollution threats. Through its new reporting requirements under Section 313 of the Emergency Planning and Community Right-to-Know Act, the Pollution Prevention Act will help us to obtain the appropriate information to plan for a sound regulatory program at a future date, if one is needed at all.

#### *Specific Comments on S. 976*

- We strongly support source reduction to the limits of evolving technology. But we oppose establishing mandatory numerical toxics use and source reduction goals as contemplated under Section 202 of S. 976 and specified national waste reduction goals under Title III.

- Since we have already voluntarily source reduced our packaging, further reduction by governmental mandate could result in packaging that could not properly protect our products, particularly food, or expose those handling these products to risks associated with breakage and spillage.

- It is in the grocery industry's economic best interest to source reduce its packaging to balanced levels and this successful, voluntary approach should not be institutionalized through legislation. We urge that Federal legislation support these efforts—not by mandating fixed targets, but by ensuring that source reduction maintains its position at the top of the integrated waste management hierarchy and is not shunted aside in favor of "quick fix" approaches such as mandatory numerical goals.

- Treating toxic use and source reduction provisions together under the same title is confusing and problematic. Moreover, it is premature to legislate additional pollution prevention requirements until more data has been gathered under the Pollution Prevention Act of 1990 to determine if additional regulation is warranted.

- We strongly oppose inclusion of sweeping new pollution prevention provisions in S. 976. These provisions give no credit to companies which have already implemented sound toxic use and source reduction measures. Such an approach would penalize the companies that have already implemented substantial reduction measures, while rewarding those that have made the least progress. Additionally, greater flexibility is needed to allow EPA to adjust industry categories and subcategories to take into account any unique characteristics of a particular class of industrial facilities to take full advantage of the range of pollution reduction opportunities available to each facility.

- Toxic use and source reduction plans should not be mandated for all facilities which submit SARA Section 313 reports—only for those which generate significant quantities of emissions into the air, water and landfills. Language should also delineate between processes and waste, and exclude innocuous uses, such as chlorine for water disinfection, ammonia as a coolant or phosphoric acid as a cleansing agent—chemicals critical to the safe production of processed food.

- As drafted, the plan deals with all hazardous substances. The scope must be narrowed, either by limiting the number of substances covered, or by establishing threshold quantities.

- The plan requires an unreasonable amount of specific, and often redundant, information which creates huge reporting burdens and intrudes on business management prerogatives.

- The proposed remedies for noncompliance with the toxic use/source reduction provisions of S. 976 should be reasonably targeted to the goals of the legislation. As drafted, EPA (or an authorized State) could require an audit of any facility that failed to implement a toxic use/source reduction plan. After considering the economic and technical feasibility of achieving the requisite reductions, EPA (or an authorized State) could mandate plant and manufacturing process modifications to achieve those reductions—a draconian measure which should be reserved for facilities which generate the most pollution and would benefit the most from such changes.

#### RECYCLING

Clearly, recycling is important. Recognizing its importance, our industry has been continually developing more packaging that contains recycled material and is capable of being recycled.

Paperboard is widely considered to be a convenient, lightweight and safe form of packaging for many food and consumer products. Higher fiber paper products, such as old corrugated and newspapers, are recycled at high rates. In fact, the boxes used in packaging Lever's detergents, for example, are made from 100 percent recycled paperboard. Chesebrough-Pond's uses recycled paperboard for its Close-up, Aim and Pepsodent toothpaste cartons, precluding the need for 3.6 million pounds of virgin board per year.

The recycling infrastructure for lower fiber paperboard, however, was virtually non-existent until recently. Lower fiber paperboard recycling has lagged because of the abundance of higher fiber paper products, contamination issues common to paperboard packaging and a lack of processing and de-inking technologies. The technology issues are now being addressed by industry and progress is being made to make paperboard recycling a reality. On the West Coast, paperboard recycling has been given a boost because of increased demand for exporting low-grade paper overseas. Although the process and infrastructure may be several years away, paperboard recycling is a key future initiative for industry. We believe that market forces are driving this process forward, and it would serve no purpose to assign mandatory recycling rates to paperboard. An industry *ad hoc* committee for the review of paperboard recycling is in the formative stages of development.

Plastics recycling is also on the rise. Lever's plastic recycling program is a good example of industry's efforts to do its fair share to develop a market for recycled high density polyethylene ("HDPE"). The technology to include HDPE plastic in bottles was developed in the late 1980's. In June of 1990 Lever began filling and shipping household product bottles containing recycled HDPE at levels between 25 and 35 percent. In the development phases of this program, Lever and its bottle suppliers faced mutual challenges: to ensure an adequate supply of HDPE and devise a way to incorporate it into bottles without contaminating the product or sacrificing color integrity. Lever and its suppliers expended substantial capital to re-engineer bottle-making equipment to produce a tri-layer bottle.

Lever's plastics program has several important purposes. One was to set in motion consumer demand for recycling plastic containers. Consumer demand can serve as a catalyst for communities to establish their own recycling infrastructure. The ultimate result would be practical and efficient bottle-to-bottle recycling. Another purpose was to reinforce and communicate the virtues of plastics, and to counteract a widespread misperception that plastic is the chief villain in the landfill. Lever believes, as do its consumers, that plastic offers a clean, safe, convenient and lightweight form of packaging. The program is also designed to educate consumers through labeling and advertising that plastic can be recycled. Lever believes that consumers, if properly informed, can help drive the recycling process and create a dynamic market for HDPE. This has been borne out by the thousands of telephone calls Lever has received from its consumers as a result of its program.

A critical feature of Lever's program is its partnership with its bottle suppliers. Lever encouraged its largest supplier to build a recycling center, and in turn committed to purchase half the output of recycled HDPE for the bottles the supplier manufactures for Lever. This joint venture, and similar ventures by other grocery industry members and suppliers, is in fact creating an economically viable market for recycled HDPE.

Now, one year later, Lever is well on its way to meeting its goal of having half of its bottles contain up to 35 percent recycled plastic. Lever estimates that by doing so, it will divert the equivalent of 50 million plastic bottles annually from the waste

stream. In this same year, the recycling' rate of HDPE rose from 2 percent to 5.87 percent. Although Lever does not take sole credit for this increase, its plastic program, including information on its label on the feasibility of recycling plastic, has helped increase this rate.

Unilever U.S. believes that plastic recycling can and should be as commonplace as recycling aluminum and steel cans, glass bottles, newspaper and corrugated cartons. As collection, sorting and cleaning systems improve and as more markets are developed for reclaimed plastic, the quality and cost-effectiveness of using recycled material will stabilize.

*Specific comments on S. 976*

- The ten percent solid waste reduction goal by the year 2000, coupled with recycling rates of 25 percent by 1995 and 50 percent by 2000, would be exceedingly difficult to measure and may not be achievable. A waste diversion goal might be a better approach, with additional emphasis placed on state-of-the-art waste-to-energy incineration.

- We oppose "minimum recovery and utilization rates for products or groups of products" and "commodity specific minimum recycled content requirements" for several reasons. First, we question EPA's ability to measure recovery rates. EPA lacks data on existing or developing infrastructures. Until a widespread collection system is established, and EPA has the wherewithal to accurately measure waste recovery, rates cannot be met and should not be established. Second, utilization rates, which we assume include minimum content requirements, cannot be justified on economic grounds until such an infrastructure is, in fact, in place. Third, making utilization rates specific to actual products or packages would create an uneven playing field and concomitant market distortions. The standards in S. 976 would put plastic and paper at a competitive disadvantage.

- We support marketplace solutions and believe that stronger, more aggressive Federal procurement policy in accordance with Section 304 will help achieve national environmental waste management goals.

- Once faced with a fixed numerical threshold for the making of a claim, many manufacturers will do just that: cross the threshold and no more. Having attained "recycled content" of 25 percent, what incentive remains for the manufacturer to go beyond? Unable to assure the Administrator that its packaging materials are being recycled at a 25 percent rate—or that its "refillable" containers are being refilled "an average of 5 times or more," many manufacturers, to avoid violating Federal law, will abandon environmental claims altogether. If the objective of RCRA reform is to stimulate source reduction, recycling and re-use, then we believe that limiting labeling claims by fixed numerical thresholds will impede constructive action to further our environmental objectives.

- In the absence of the substantial infrastructure, mandated goals and content requirements simply will not work. Currently only 1,600 curbside programs nationwide include the collection of plastics. By 1994, the Council on Solid Waste Solutions ("the Council") estimates that some 4,000 community programs will be on-line. While this is a laudable and ambitious aim, which underlies the Council's pledge to meet a national 25 percent recycling rate by 1995, its success is dependent upon collection, aggregation, appropriate sorting, transportation and processing. If any of these functions comes up short because of excessive cost, or if markets do not develop as theorized, then the numeric recycling goal for plastics contained in S. 976 may not be met within the prescribed time frame.

- The establishment of mandated content requirements for paper and plastic would create serious problems for food manufacturers, particularly if done on a product by product basis. At this time, sorting systems for paper do not guarantee that recovered paper is contaminant-free. While the Food and Drug Administration has established regulations for the use of recycled paperboard for dry foods, its use with fatty and aqueous food products needs further investigation. In addition, due to variations in the purity and cleanliness of the post-consumer paper stream, substantial extraction testing would be needed to permit such packaging for use with fatty and aqueous food products.

- The technology for using recycled plastics of suitable purity for food packaging is still in its infancy. Currently, only one type of technology exists to adequately purify post-consumer plastic—and it is limited to the resin, polyethylene terephthalate ("PET"). Under mandated content requirements in S. 976, the public would be subjected to the risk of contamination from food content residues, non-food packaging or incidental exposures (such as the rigid container that held gasoline or chemicals prior to entering the recycling stream). New technologies are needed to ensure the safety of recycled plastics in food contact situations. We urge the subcommittee

to confer with the Food and Drug Administration on the potential hazards of any such mandates, and to exempt food and other FDA-regulated products (cosmetics, over-the-counter drugs and personal hygiene products) from paperboard and plastic content requirements.

- In addition to food safety concerns, product integrity problems may also develop from mandated content requirements. For example, in the soap and detergent business, we have experienced technical difficulties in experimentation from colored plastics and certain contaminants that can effect product quality.

- Finally, the capital investment required to use secondary materials at the levels prescribed in S. 976 may be prohibitive, driving smaller manufacturers out of business, and creating an unfair advantage for foreign competitors.

#### PRODUCTS AND PACKAGING ADVISORY BOARD

Section 203 of S. 976 would establish a "Products and Packaging Advisory Board" ("Board") and charge it with various reporting functions related to voluntary source reduction, reuse and recycling; labeling with respect to plastic resins; and national packaging standards. Unilever U.S. recognizes the need for gleaning critical information from those affected by Federal action in the packaging and labeling arena. At the same time, we are concerned that such a process, if in the form of an Advisory Board, could duplicate existing channels of communication, and potentially impede the significant advances our industry has and will continue to make in managing our share of the solid waste problem.

Today, virtually every sector interested in the packaging and labeling debate is represented by one or more organized, active and articulate organization. Consumer product manufacturers are represented individually or through trade associations and coalitions such as GMA, National Food Processors Association ("NFPA"), Soap and Detergent Association, or the Grocery Industry Committee. A coalition of 30 trade associations framed a petition for national uniform guidelines filed by the NFPA with the Federal Trade Commission ("FTC"). See *Petitions for Environmental Marketing and Advertising Guides*; Public Hearings, 56 FED. REG. 24968 (May 31, 1991) ("Petitions"). Various State and local officeholders, acting through such organizations as the National Association of State Attorneys General, an 11-State Attorneys General Task Force and CONEG, have also formulated their own proposals, such as *Green Report II* and the *Preferred Packaging Guidelines*.

The EPA and environmental organizations have actively participated in and supported the process of developing uniform national guidelines for labeling and marketing claims now pending before the FTC.

Numerous professional organizations have researched and examined packaging issues, definitions and standards, sharing information with interested stakeholders. Recently President Bush appointed a blue-ribbon panel of 25 business, environmental and academic members to advise him on ways to improve environmental quality without relying on a traditional regulatory approach. All of these resources are available to the EPA now to collaborate on packaging and other issues.

As active participants in this process ourselves, Unilever and other GMA members are concerned that the creation of a Products and Packaging Board would duplicate the efforts underway for the past several years to develop innovative solutions to packaging problems. Moreover, given the statutory 18-month time frame for the Board's report, we cannot conceive that such a broad mandate as set forth under Section 203, Subtitle E, can be accomplished within the allotted time period. By then, rapidly changing technology and innovations in packaging design may have outpaced standards or policies such a Board could develop, rendering them obsolete. Finally, without procedural protections of notice and comment, even though the Board's guidelines are voluntary, such guidelines may not be credible or reliable if all affected and knowledgeable parties do not have the opportunity to comment.

In lieu of assembling an advisory Board, we believe Congress should encourage the FTC to proceed with the promulgation of environmental marketing guidelines and encourage input from a broad range of affected constituencies.

If such a Board is to be authorized, we recommend that it be made very clear in the statute that any proposed Board, if retained in the bill, be expressly subject to the requirements of the Federal Advisory Committee Act. We believe that the Board should be instructed, in the course of its proposed work, to hold public hearings, forums and workshops to encourage full public participation and comments from all facets of industry. Other Federal agencies with relevant expertise should be instructed to assist the proposed Board "to the maximum extent practicable" as deemed appropriate and necessary. Finally, we believe that the Board should have a sunset date and should cease to exist after it has submitted its report to EPA.



### Specific Comments on S. 976

- GMA members oppose the creation of a Federal board with authority to regulate packaging, or to develop national packaging guidelines. We are concerned that the "voluntary" proposed guidelines would become *de facto* standards. Voluntary programs are already underway to accomplish this objective.

- GMA members are particularly troubled by the reference to "Products" in the Board's name and mandate. Products and packaging are not interchangeable; they satisfy very different roles; coupling them, as S. 976 would do, raises significant questions about the intent of this provision.

- The composition of the Board is lopsided and comprised mostly of government officials and packaging manufacturers. The addition of consumer and food product manufacturers and retailers would add more balance, and would help to ensure that food safety and product integrity issues were given a fair hearing.

- The list of hazardous substances in products is overly broad and appears to cover household products. This list should be narrowed to exclude all consumer goods.

- Instead of establishing a Products and Packaging Advisory Board, Congress could do more to advance recycling and innovative packaging by supporting promulgation by the FTC of environmental marketing guides.

### HAZARDOUS CONSTITUENTS IN PRODUCTS

Listing products that contain hazardous substances is the objective of Section 204 of S. 976. Presently, grocery industry products are heavily regulated by the EPA, FDA and their State counterparts. Ingredients in non-food products are constantly being assessed not only by the scientists in our companies' research laboratories, but through scientific studies by our trade associations. In the soap and detergent industry, for example, product ingredients such as phosphorus are the subject of numerous authoritative environmental impact studies. Many such studies have been done in collaboration with the EPA. Our companies often set higher standards for themselves than often required by regulatory agencies.

Based on our industry's high standards of care, Unilever believes that it is not necessary to establish a new regulatory program such as that envisioned under Section 204 of the bill. Both TSCA and RCRA already contain sufficient authorities to take any of the types of regulatory actions that would be authorized under Section 204. For example, Section 6 of TSCA already authorizes EPA to impose regulatory requirements "prohibiting or otherwise regulating any manner or method of disposal of [any chemical] substance or mixture, or of any article containing such substance or mixture, by its manufacturer or processor or by any other person who use, or disposes of, it for commercial purposes," if EPA finds that a chemical substance or mixture poses an unreasonable risk of injury to health or the environment.

Rather than create a new program, we believe:

- It would be much more administratively expedient to utilize existing TSCA programs to achieve the goals of Section 204. At the very least, this program should remain discretionary, rather than mandatory, to give EPA the flexibility to determine how best to implement its provisions.

If the subcommittee decides to include a program similar to the Section 204 program in a RCRA reauthorization bill, we believe that:

- The presently proposed program is far too broad and should be significantly limited. As an example, the definition of "hazardous substance" under Title I of S. 976 includes the broadest possible range of chemicals from every extant environmental statute, with *no de minimus* exemptions or provision for exemption of chemicals that are "naturally occurring" in food, for example, or chemicals in non-food products that are based on food.

- Rather than impose broad regulatory requirements across the board, all consumer products should be expressly exempt from the regulatory requirements of a Section 204 program.

- At the very least, this proposed program should include exemptions similar to the exemptions provided under California's Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65") in connection with the public warning requirements for chemicals that cause cancer or reproductive toxicity. This very stringent law includes exemptions from these warning requirements if a similar requirement was already imposed under Federal law.

- The information collection requirements proposed in Section 204(a) are certainly far broader than is necessary. There is no guidance at all on what is required under this Section when it directs the EPA Administrator to "determine the extent to which hazardous substances as defined in Section 1004(4) are contained in prod-

ucts distributed in commerce" or what is meant by a "risk" to human health or the environment.

● The new "listing" requirement under this Section would unreasonably stigmatize many of the useful products that society has come to depend on. The psychological stigma associated with putting a useful societal product on the proposed list could not only discourage the use of that product, but could ultimately be counterproductive and lead to environmental damage due to increased dumping activities. Unilever recommends that this requirement be deleted or that at the very least, include a new requirement that only those products that contain an unreasonable risk be put on the list.

We believe that mandating the EPA to analyze a broad range of hazardous substances in our products that have already been subject to rigorous scrutiny in our laboratories, by regulators under established programs, and through scientific study serves no useful purpose. EPA already has been analyzing the impact of chemicals on human health and the environment since 1976 under its broad TSCA authorities. More recently, the EPA has been subjecting chemicals to an even more rigorous analysis based primarily on the volume of their exposure to the consuming public. This new EPA "exposure based" policy requires substantial environmental impact analyses by the manufacturer and, as such, uncovers all potential unreasonable risks to human health and the environment: This TSCA evaluation, coupled with the existing TSCA statutory requirement that significant adverse effects of chemicals revealed in studies be submitted promptly to the EPA pursuant to Section 8(e) of TSCA, should provide the safeguards to human health and the environment that proposed Section 204 seeks to provide. To add another layer of regulation would be duplicative and serve no valuable end.

#### ENVIRONMENTAL LABELING

Where our industry does unequivocally seek Federal intervention is in the area of environmental labeling. Unilever and the grocery industry strongly believe that interpretive guides ("Guidelines") for environmental advertising and labeling claims will bring uniformity to an area that is replete with conflicting and differing regulations proposed or in effect. The FTC is the appropriate agency to take the lead in developing Guidelines and it is the FTC that should issue these Guidelines.

There are several proposals currently pending in Congress which would set standards for environmental claims, including The Environmental Marketing Claims Act of 1991, introduced by Senator Lautenberg on March 12, 1991 (S. 615 or "the Lautenberg bill"), and its companion measure, H.R. 1408, introduced in the House by Congressman Sikorski on March 12, 1991 and the "Materials Recycling Enhancement Act of 1991," introduced by Senator Warner on July 15, 1991 (S. 1473).

Concurrently, numerous groups, representing a broad and perhaps unprecedented nationwide spectrum of differing interests have called for the FTC to take action.

● There is a strong consensus that a uniform national approach to environmental labeling and advertising is needed. The States have recognized the need for such an approach. The National Association of Attorneys General has called upon the FTC to work with other groups to develop uniform national guides for environmental claims. See National Association of Attorneys General, Resolution Supporting Development of Uniform Guidelines for Environmental Marketing Claims (Mar. 1990); see also Petitions at 24969. More recently, Attorneys General from 11 States issued *Green Report II* following extensive hearings on environmental claims. *Green Report II* confirmed that the Attorneys General Task Force—comprised of government officials, environmental advocates and business representatives—urged the adoption of uniform national Guidelines. The *Green Report II*, at viii (May 1991); see also "Remarks by Minnesota Attorney General Hubert H. Humphrey III before the Council on Plastics and Packaging in the Environment," *COPPE Update*, Jan. 1991, at 1 and "Remarks of Attorney General Humphrey before the FTC Hearings on Environmental Marketing," 1, 5 (July 17, 1991) (urging FTC to issue Guidelines for environmental terms). The EPA has also called upon the FTC to begin defining environmental terms. See Remarks of William K. Reilly before the National Press Club, at 13 (Sept. 26, 1990) and remarks of Henry Habicht II before the FTC at 2 (July 17, 1991). Moreover, the NFPA, supported by many leading industry associations, including the GMA and the Grocery Industry Committee, petitioned the FTC to issue uniform national Guidelines. Unilever U.S. played an important role in developing this petition. Others have also called for such action by the FTC. Petitions at 25969-24970.

● The FTC is the authoritative Federal agency on matters relating to consumer deception and unfair trade practices. It has statutory authority to enforce, and long years of experience in enforcing, Section 5. It is the preeminent expert in determin-

ing what inferences reasonable consumers may draw from product labels and advertising.

- The FTC has demonstrated interest in examining the feasibility of adopting guidelines by holding hearings on this matter on July 17 and July 18, 1991.

- The FTC's task in formulating Guidelines will be made easier because it will have available to it the considerable expertise and the full cooperation of the EPA, as well as the experience and cooperation of the States, industry and public interest groups. See "Remarks of Commissioner Azcuenaga before the Cosmetic, Toiletry and Fragrance Association," at 21 (Nov. 15, 1990). Indeed, as evidenced by the petitions filed with the FTC and the testimony and comments that were submitted to the FTC on July 17 and 18, 1991, at hearings before the Commission on environmental labeling, there is no shortage of knowledgeable and experienced outside groups prepared to assist the FTC with environmental Guidelines.

- Congress normally defers to the technical expertise of the appropriate administrative agency in setting standards or guidelines and, in this case, deference to the FTC is appropriate in view of its long years of experience in consumer protection. In fact, Congress should urge the FTC to adopt guidelines for environmental labeling and advertising claims.

- Should such statutory definitions be developed in accordance with S. 615, and incorporated into a comprehensive RCRA reauthorization measure, such definitions will be based on technology fixed in time, thus lacking the flexibility inherent in FTC guidelines. Since packaging and recycling technology is evolving quickly in this area, maximum flexibility is required to encourage innovation.

- Congressional proposals specifying threshold numeric standards or definitions for the use of certain claims could have a chilling effect on consumer education and packaging advances. The resulting environmental claims silence may also diminish incentive to develop environmentally innovative packaging. Moreover, consumers, deprived of knowledge that a package is recyclable, may not take steps to recycle the package thus failing to further constructive environmental objectives.

We agree with Attorney General Humphrey that Guidelines will set a national tone for environmental claim regulation. They will provide State and local consumer protection agencies with a model—or even a substitute—for their own laws and regulations, an alternative that does not exist today. Guidelines will be regarded as authoritative, or at least as highly persuasive, by State and local consumer protection agencies and by self-regulatory bodies such as the National Advertising Division of the Better Business Bureau and the television networks. In other controversial areas of advertising, Guidelines have worked to clarify the applicability of claims.

There is recognition by the States that FTC guides would be observed. Indiana's new environmental marketing claims statute expressly defers to FTC guides. Ind. Code 24-5-17, § 2(b) (1991). A Rhode Island official, whose State has enacted its own environmental labeling law, stated that if the FTC issued Guidelines on environmental claims, "[w]e would be happy to go along. It does not make sense to have 50 different regulations." See Statement by Victor A. Bell, Director of Rhode Island's Office of Environmental Coordination, in "Recyclable Claims are Debated," *New York Times*, Jan. 8, 1991 at D1, col. 5. Moreover, Guidelines reflect the underlying principle that a better informed consumer becomes a catalyst for expanded recycling and re-use of packaging materials.

Since product labels and advertisements are a manufacturer's principal means of communicating with consumers, labels and advertising containing environmental information can educate consumers about a previously unknown aspect of the package or product. For example, consumers may learn from a package label that a particular packaging material, previously thought not to be recyclable, is in fact recyclable (that is, capable of being recycled). In turn, in localities where recycling facilities do not presently exist, consumers' desire to recycle packaging material they know to be recyclable, will drive dynamic community forces and spur the development of the recycling infrastructure necessary to recycle that packaging material. On the other hand, where recycling facilities do exist, uninformed consumers may fail to dispose of packaging that could be recycled, unless it is clearly labeled "recyclable." The educational and motivational benefits to the consumer from responsible environmental labeling and advertising cannot be overemphasized.

In an effort to educate consumers, Lever Brothers includes on the labels of its plastic household product bottles a message designed to encourage plastic recycling. In doing so, Lever's goal is to serve as a catalyst to increase recycling efforts and support the development of a more advanced infrastructure for solid waste disposal. The label reads:

## SUPPORT PLASTIC RECYCLING

AND

**PLEASE HELP:** We are now using technology that can include recycled plastic in our bottles at levels between 25 percent and 35 percent. But to do so consistently, we need more recycled plastic. So please encourage recycling in your community.

Unilever U.S. believes that the ongoing dissemination of environmental messages like Lever's on packaging and in advertising has contributed to an increased recycling rate of HDPE (2 percent in 1989 to 5.87 percent at the end of 1990), and has received favorable reactions from consumers, manufacturers, retailers and the attorneys general in Green Report II.

Unilever and GMA appreciate this opportunity to address S. 976 and related issues.

## PREPARED STATEMENT OF DR. WILLIAM M. FERRETTI

## INTRODUCTION

By way of introduction, my name is William M. Ferretti. I am Director of the New York State Office of Recycling Market Development, housed within the State's Department of Economic Development. In addition, to my market development duties, I serve as one of Governor Mario M. Cuomo's representatives to the Coalition of Northeast Governors' (CONEG) Source Reduction Task Force. I also serve as Chair as the Northeast Recycling Council (NERC), an organization of State recycling officials sponsored by the Council of State Governments.

As you may be aware, the northeastern States have been actively pursuing a regional source reduction and recycling agenda for the last four years. My purpose today is to briefly introduce the subcommittee to New York State's Office of Recycling Market Development, describe the regional initiatives that the Northeastern States have undertaken, and make the following points:

1. that there remain significant marketplace barriers to achieving an optimum level of source reduction and recycling; and
2. that the marketwide nature of these barriers require, preferably, regional and Federal action, but action that goes beyond what is contemplated in Senate bill 976.

## NEW YORK STATE'S MARKET DEVELOPMENT PROGRAM

The Office of Recycling Market Development (ORMD) is New York State's lead agent for fostering the supply and demand conditions necessary to establish recycling as a vital component of the State's solid waste management strategy. Established in 1988 as part of the State Department of Economic Development, the Office is authorized to deliver a broad range of financial and technical services to the State's recycling community.

Our work is guided by the following objectives:

- to develop the State's industrial capacity for making use of recyclable materials;
- to indirectly influence the development of similar industrial capacity outside of the State;
- to assist New York State companies in identifying and developing markets for products they manufacture using recycled materials;
- to assist municipalities and businesses with identifying and securing outlets for their recyclable materials;
- to assist municipalities and businesses in developing materials collection programs and marketing strategies that position them as reliable suppliers of quality raw materials; and
- to develop a supply infrastructure in New York that is capable of transforming the materials collected by municipal and commercial programs into readily usable industrial inputs.

I have added a copy of my Office's 1990 Annual Report to this testimony in order to provide you with more details about the breadth of our program activity.

## REGIONAL INITIATIVES IN THE NORTHEAST

## CONEG

Since 1988, the CONEG States have been working with industry and other interested parties to develop and implement a region-wide coordinated strategy on source reduction focusing specifically on packaging waste.<sup>1</sup> The foundation of this initiative

has been a set of guidelines which focus manufacturers on actions they can take to reduce the disposal impact of packaging waste by: (1) changing to more environmentally benign materials; (2) reducing the total volume and weight of disposable packaging generated; and (3) increasing the recyclability and recycled content of packaging products. In addition, the Northeast governors anticipated that these Preferred Packaging Guidelines would provide policy direction for the States and industry to develop quantifiable indices, goals, standards and timetables for the reduction of packaging marketed in the Northeast.

The CONEG Preferred Packaging Guidelines are as follows:

1. *Eliminate Packaging:* Whenever possible, eliminate the package altogether. The need for any packaging of a product should be evaluated in the research and development stages and prior to introductions in the marketplace.

2. *Minimize Packaging:* For those products that must be packaged, consider methods of minimizing the amount of material used in the packaging.

3. *Refill or Reuse Packaging:* Design packages that are either consumable, returnable or refillable/reusable.

4. *Recyclable and Recycled Packaging:* Produce packages that are recyclable. Use recycled material to produce packaging.

A more detailed description of the Preferred Packaging Guidelines is included as Appendix A of this testimony.

To move the state-of-the-art in waste reduction further, the CONEG governors have charged a series of working groups to identify tangible steps for making the Preferred Packaging Guidelines operational. In 1990, this resulted in the drafting of model legislation for reducing the toxicity of packaging by requiring manufacturers and distributors to eliminate the use of four heavy metals (lead, cadmium, mercury and hexavalent chromium) from packaging materials.

To date, eight States, including New York, have enacted the legislation. In addition, I have been advised that the CONEG model legislation served as the basis for Senate bill 730, introduced in this session of the 102nd Congress by Senator Lautenberg.

In May of this year, the CONEG governors issued a challenge to 200 of this country's largest producers and users of packaging to: 1) begin practicing, voluntarily, the Preferred Packaging Guidelines; 2) set goals for reducing the solid waste contribution made by packaging; and 3) report to the governors on their progress and accomplishments. To date, more than 20 companies have accepted the Challenge.

## NERC

Over the past two years, there has been an explosion in the number of companies advertising their products as "green" or environmentally sensitive. In many cases, these advertising claims employ logos or terms like "recyclable" or "recycled" without clarifying what those terms actually imply. Simultaneously, New York and other States recognized that regulating the use of such terms could promote the production of items that yield low solid waste management burdens and increase opportunities for reuse and recycling.

Recognizing that the potential for inconsistency among States in addressing this policy issue was large and threatened to undermine any benefit that could be gained by taking action, New York State and its northeastern neighbors (through the Northeast Recycling Council) joined together to develop a recommended set of criteria for qualifying the reusability, recyclability and recycled content of products and packaging. These criteria are now the basis for State legislation and regulations being developed throughout the region.

## NEXT STEPS

To continue the momentum created by these initiatives, my State colleagues from Connecticut, Maine, New Hampshire, Pennsylvania, Rhode Island and Vermont have been charged by our governors to undertake two substantive tasks. One is to follow-up the CONEG Challenge with an educational program for industry comprised of:

- the production and release of a Preferred Packaging Manual that will provide general guidance on how to put the Preferred Packaging Guidelines into practice; how to set goals for source reduction, packaging reuse, recyclability and recycled content; and to provide a recommended format for reporting on progress in implementing the Guidelines; and

- a series of workshops on how to implement the Preferred Packaging Guidelines for those companies accepting the CONEG Challenge.

The second task is to prepare, in consultation with industry and other interested parties, draft model legislation that provides for the establishment of packaging goals, guidelines and standards that must be met by all packaging sold in the

Northeast. In charging us with this formidable task, the governors also established some guiding parameters. They are as follows:

- The legislation should establish an administrative framework that is flexible and equitable in that it allows manufacturers choice in how to meet the goals, guidelines and standards.
- The legislation should provide a method of determining the achievement of packaging waste reduction by industry. This method should include means for measuring and giving credit for packaging source reduction, packaging reuse, packaging recyclability and the recycled content of packaging.
- The drafting process should consider institutional barriers to meeting the goals, guidelines and standards.

This model legislation is to be completed in time for introduction in the 1992 State legislative season.

#### WHAT HAVE WE LEARNED FROM THESE INITIATIVES?

From our own work in developing recycling markets, and our participation in CONEG and NERC, we have gained some unique insights into the challenge of crafting policy initiatives designed to achieve our overarching solid waste goal of reducing the amount of material requiring disposal.

Without a doubt, there are significant steps being taken by the private sector in this country and elsewhere to achieve packaging source reductions and/or increase the use of recyclable materials. I would argue, however, that only in some instances are these actions being driven by the signals provided by the pricing system. More often than not, unfortunately, these achievements have been motivated by a desire to avoid regulatory action.

The question we need to consider is why these actions would not have occurred in the absence of considerable public scrutiny and State legislative pressure. My conclusion is that the marketplace is sufficiently distorted to make it difficult for firms to realize economic benefits by utilizing recyclable instead of virgin materials or from making investments to source reduce products or by ensuring that those products can be recovered and reused or recycled at high rates. Furthermore, once they do commit to a waste reduction program, there are no signals from the marketplace that enable companies to identify an optimum course of action via source reduction, reusability and recyclability.<sup>2 3</sup>

There are, I believe, a number of factors contributing to this uneven market condition. These include a set of policies and market flaws that effectively allow companies and consumers not to be accountable for the ultimate financial and social costs associated with the management of packaging and products once they have been discarded as waste. Two principal factors contributing to these distortions are:

- the price system's failure to internalize solid waste management costs into a product's price; and
- public finance practices that undervalue the price of solid waste disposal.

Correcting for the first distorting factor necessitates adjustments to a product's price that internalize the waste management costs that manufacturers and consumers currently escape bearing. Correcting for the latter will require a similar internalization of costs into public finance decisions.<sup>4</sup>

It is these types of corrective actions that I expect the Northeast States will be addressing as we craft the model legislation referenced earlier. Obviously, the market-based nature of the distorting factors suggests that a regional approach is likely to be more effective than individual, State-by-State approaches but not as effective as a nation-wide approach offered by the occasion of RCRA's reauthorization.

#### POLICY OPTIONS FOR ADDRESSING THE MARKET DISTORTIONS

As I have noted, a number of the northeastern States have concluded that the most effective means for promoting the achievement of waste reduction via source reduction, reuse and recycling is to take legislative action aimed at eliminating or correcting for the market distorting factors that lead to waste production, the subsequent rapid depletion of disposal capacity, and the environmental hazards posed and realized as a consequence. At least part of the reason for this decision to take a legislative course stems from the phenomenon noted earlier—that the voluntary actions being taken by companies today occur in the absence of market signals. As a result there is, no guarantee of an optimal outcome.

While it is too early to describe what the draft legislation will contain, the policy options for exploiting the motivating nature of the marketplace have been well researched. I am referring here to corrective actions that would motivate waste reduction through price signals—signals that would help companies make, on the output

side, optimal choices regarding design and production that incorporates source reduction, reusability, recyclability and, on the input side, appropriate decisions regarding the utilization of recyclable materials as the raw materials of production.

Among the policy options we are likely to consider in the coming months are:

- the application of a packaging tax reflecting the full cost of disposal with credits for product source reduction or for investments by the manufacturer to retrieve and recycle the used product;

- the creation of a market for waste reduction through the trading of permits; and

- a requirement that all public and private disposal capacity be fully valued to reflect the replacement, depletion, and environmental costs, as well as the complete costs of operation.

#### CONCLUSIONS

Given this base of experience, I believe that Title II of Senate bill 976, with its emphasis on advisory boards, research and recommendations for voluntary action will fall short of yielding the fundamental marketplace developments that need to occur if waste reduction is to become an achievable public policy objective.

A critical mass of States in the Northeast, including my own, have set a course to explore market-directed actions for yielding lasting reductions in the generation and disposal of solid waste. It is our hope that you will avail yourselves of the work we have accomplished in the areas of toxics reduction and product labeling. Furthermore, we hope that our current work on model legislation for the region can contribute to the work of this subcommittee as it prepares its final version of the RCRA amendments.

For many of us, the solid waste crisis is immediate, demanding our attention and action today. RCRA is the vehicle for the Federal Government to become a partner with the States in filling the market prescriptions which I have described. Our concern, however, is that the body of experience and progress that States have achieved in this field will be ignored or, in the worst case, undone. With that cautionary note, we look forward to a Federal role in this arena.

#### NOTES

##### CONEC—PREFERRED PACKAGING GUIDELINES

<sup>1</sup> The singular focus on packaging is attributable to the fact that this product category accounts for almost 32 percent of the solid waste tonnage generated in the United States today.

<sup>2</sup> Our experience has shown that the Preferred Packaging Guidelines cannot be treated as a hierarchy of actions where the first action in the guideline is better than the second and so on. It is not clear, for example, that a firm has made the optimum or best decision if by redesigning a currently recycled package to be source reduced, the end result is a non-recyclable item requiring disposal.

<sup>3</sup> "Optimum" or "best" choice, as used in this presentation refers to a decision by the firm which accounts for all of the costs associated with a given package, including the waste management and environmental costs which the producer (and consumer) escape bearing, but are borne, nevertheless, by society at large.

<sup>4</sup> As part of its law requiring every municipality to establish mandatory recycling programs by September, 1992, New York State has attempted to achieve this public finance internalization of waste management costs. While each locality is free to select the materials it will recover for recycling, it must provide an economic justification for the materials it decides not to recover. This "economic markets" test requires the source separation of those materials for which the full avoided cost of proper collection, transportation and disposal of the source separated material is equal to or greater than the cost of collection, transportation and sale of the material (for recycling) less the revenues received from their sale.

The one potential weakness in this test, however, is that it does not prevent New York localities from considering underpriced disposal capacity in other States as the metric against which they evaluate the costs of recovering materials for recycling. A Federal requirement that all disposal capacity be fully valued, to reflect the replacement, depletion, and environmental costs, as well as the complete costs of operation would close that loophole.

##### PREPARED STATEMENT OF GEOFFREY LOMAX

Chairman Baucus, Senator Chafee, and members of the committee, thank you for this opportunity to testify today on behalf of the National Environmental Law Center (NELC), a national non-profit litigation and policy organization dedicated to the enforcement and development of innovative pollution prevention policies.

My name is Geoffrey Lomax, and I am a research scientist with the National Environmental Law Center. Over the last eighteen months, in conjunction with Economist Robert Stone and Associate Professor Nicholas Ashford of the Massachusetts

Institute of Technology, we conducted research into the feasibility, and social and economic impacts of recycling standards for packaging. This work culminated with the release of two reports, "The Art of the Possible" and "Package Deal." These reports detail the findings that I will now summarize.

Our work also pertains to your question of whether a system of national packaging standards should be included as part of a product and packaging provision in S. 976, so I will use this opportunity to both convey our findings and offer comments on the proposed legislation.

#### I. BACKGROUND ON RECYCLING

To address the economic and environmental problems caused by increasing solid waste, legislators and advocacy groups have begun to explore other management options, particularly recycling. Recycling has gained favor in part because it represents the least cost and least polluting management strategy.

However, today only about 13 percent of our garbage is recycled, so the key question facing policy makers today is, "what do we have to do to make recycling work?"

To answer this question, one must examine the recycling process in order to understand where policies can be most productively applied. Recycling creates a flow of goods and materials from businesses, to consumers, to local collection programs, and then back to business. If any part of this cycle is not working then recycling quickly grinds to a halt. Recycling is a simple case of supply and demand, where manufacturers must purchase the materials provided through local collection programs.

Today, however, we have a problem of both a lack of supply and demand. As part of the effort to remedy this problem, recycling advocates are now focused on policies that stimulate both, but they have put emphasis on policies to improve demand.

For example, States and local governments have implemented statutes to increase demand for recycled materials. Prominent among these are measures that require manufacturers to use recycled materials. For example, five States require publishers of newspapers to use minimum amounts of recycled newsprint. Wisconsin requires plastic containers to contain minimum amounts of recycled material. In California, makers of trash bags and glass containers are also required to use recycled material.

Another approach is the enactment of recycling standards for products. Recycling standards establish guidelines that set minimum performance standards for the materials used in products. They require either (1) that the materials used in products or the products themselves achieve certain levels of recycling, or (2) that individual products contain certain amounts of recycled material. Recycling standards do not dictate a specific method of compliance but rather try to induce an outcome through compliance with a flexible standard. The goal is to organize and maintain but not replace the free market.

The studies we conducted examined the feasibility and impacts of recycling standards for packaging. Packaging standards have been proposed in a number of States. The idea here is that because packaging is the largest single source of municipal solid waste—comprising approximately one-third of the waste stream—it is there where recycling standards can be most productively applied. Furthermore, in the absence of standards packaging waste will increase in volume and complexity. The trend toward more complex multi-material packaging, such as ketchup bottles with three types of plastic, is troubling; because, such packaging is difficult to recycle.

#### II. GOAL OF OUR RESEARCH

We examined packaging standards such as those found in legislation put forward in Massachusetts. The legislation proposed in Massachusetts would set three conditions on packaging, it must either (1) contain recycled materials, (2) be made from materials which have achieved high recycling rates, or (3) be reusable. Failure to comply ultimately carries the threat of market prohibition. In other words, if your package does not meet one of these three standards then you must change it. I will focus my comments on the first two standards, to contain recycled materials or to be made from materials which have achieved high recycling rates.

These standards are intended to create demand for recycled materials by giving packagers strong incentive to (1) use recycled materials in their products or (2) use materials which they can ensure are being recycled. The second standard does not necessarily guarantee that a package will be recycled; however, it does create a strong incentive to do so. The practical impact will be that packagers will (a) select materials that are easily recyclable, (b) design their package in a way that facili-



tates recycling, and (c) promote the recycling of their product. This type of activity is commonly referred to as "designing for recycling."

We were asked to determine whether packagers could meet the standards put forward in the Massachusetts bill. To determine whether packagers could meet the standards, we conducted two levels of investigation: (1) we looked at the potential for each material commonly used in packaging to reach high recycling rates, (i.e. around 50 percent by the year 2000), and (2) we conducted five case studies of "problem products" held up as examples where recycling standards would be impractical.

### III. SUMMARY OF OUR FINDINGS "ART OF THE POSSIBLE"

#### (1) The Potential for Materials to Reach High Recycling Rates:

We found that some of materials used in packaging are being recycled at modest rates of 15 to 25 percent, and all of these have the technical potential to go much higher. We identified three factors that generally govern the prospects for increasing a material's recycling rate. They include:

(a) **Recycling Technology:** Technologies must exist that allow for the successful reprocessing of materials commonly found in municipal solid waste.

(b) **Feasibility of Collection and Separation:** Collection and sorting of materials is an integral part of any serious recycling effort, since recycling often depends on supplies of separated, uncontaminated materials.

(c) **Product Design:** By making products out of materials that are easily collected, separated, and reprocessed, recycling rates can be greatly improved. Referred to as "designing for recycling," a product can be made in ways which increase its recyclability and which increase the fraction of the product containing recycled materials.

#### *Paper*

Paper is now at a recycling rate of about 25 percent, and the industry has established a 40 percent recovery goal by 1995. It is important to recognize that recovery does not necessarily mean the material will be used in new products; it could be burned at the facility to generate energy. However, since collection will increase substantially, we anticipate more recycled paper will be used in products. As long as there is an adequate supply, there is no technical reason why paper cannot achieve high rates, and recent trends suggest it will. Innovative new recycling technologies are being developed as are new products to use recycled materials. For example, Gyroclean technology and processes used by Fort Howard paper can now remove "stickies" and varnishes allowing for the recycling of products that once had to be disposed of, such as junk mail and magazines. Chesapeake Corp. of Virginia, has introduced a new low-cost process for the recycling of newsprint, corrugated cardboard, and unsorted office paper in one feed stream. The system is noted for its simplicity and its ability to cut paper recycling cost by a third. Pan Terre America offers a unique low-cost insulating board for the construction industry made from old newspaper, magazines, and boxes. New design breakthroughs such as the use of water soluble adhesives and inks that do not contain heavy metals will also facilitate recycling.

#### *Glass*

The story is similar for glass packaging. Citizen interest in recycling combined with education efforts by recyclers, municipalities, and the Glass Packaging Institute have resulted in an improved supply of high quality color separated cullet, or waste glass. The glass industry is continuing to improve separation and cleaning technologies, and even with current technology, industry believes that cullet usage can be increased. Today some facilities are already using 40 to 80 percent recycled glass in their furnaces.

Furthermore, enterprises such as fiberglass manufacturers can use cullet, and in California the fiberglass industry will achieve a 30 percent utilization rate by 1995. Other entrepreneurs have found innovative uses for cullet in drainage systems, sand blasting equipment and building materials.

#### *Metals*

Metals, principally aluminum and steel, have a history of high recycling. Both industries have been working for decades to increase recovery of scrap, and improve the efficiency by which it is processed. The steel industry has had an annual recycling rate of more than 50 percent for well over 50 years, and today, the Steel Can Recycling Institute is working aggressively to recycle at least 25 percent of the steel cans in MSW with a goal of 66 percent by 1995. Some collection programs report capture rates of up to 45 percent for steel cans.

The Aluminum Association reports similar success, and estimates the recycling rate for all aluminum to be 35 percent. Thanks to its high market value, innovative new ways will be developed to recover more aluminum from the wastestream.

#### *Plastic Resins*

The plastics industry, considered the laggard in recycling, has also made considerable progress in recycling some types of plastics. There are six common plastics, or resins, in use today. Each is a different material with distinct chemical and physical properties.

PET plastic, commonly used in soda bottles, is recycled at a rate of over 50 percent in Massachusetts because most of the containers are collected through the States bottle bill. Nationally, PET soda bottles are recycled at a rate of about 30 percent. HDPE is another type of plastic that can attain high recycling rates because significant efforts are being made in the areas of recycling technology, collection and product design. Improvements in these areas led to the success of PET recycling. Other plastics, however, have less of a potential for high rates of recycling. They will have a difficult time meeting the rates established in the Massachusetts legislation.

Our analysis indicated that plastic recycling efforts are being spearheaded by private entrepreneurs and research efforts supported by the Council for Solid Waste Solutions and the Rutgers Center for Plastics Recycling. In general, the last few years have been characterized by remarkable progress. A state of the art facility in New York which already recycles 10 million pounds of PET and HDPE a year is now doubling its capacity. Innovative new techniques such as flotation tanks, cyclones and electromagnetic detection systems are being developed to improve separation. EXXON has upgraded the actual HDPE plastic resin to make it more recyclable. Graham Recycling Company produces HDPE bottles with 25 to 100 percent recycled content which have been successfully recycled up to 20 times. Some plastics can certainly meet the standards, but in order to do so manufacturers will have to standardize their materials, establish better collection systems, and incorporate recycled plastic into their products.

#### (2) Case studies of "problem products:"

In the "Art of the Possible" we also looked at certain types of packaging, to see whether they could meet the standards. Concerns were raised that packaging standards would result in products disappearing from store shelves. In response to these concerns, we conducted five case studies of "problem products" that were held up as examples where recycling standards would be impractical. The products we studied were milk, shampoo, computer equipment, microwavable food, and plastic food wrap. While plastic food wraps presented difficulties, we identified a variety of ways the other products might meet the standards.

For example, milk could continue to be packaged in recyclable paper cartons (which, by-the-way, are now being sought by recyclers because they contain high value fiber), glass bottles, reusable plastic bottles, (such as the one's manufactured by General Electric), or the traditional plastic jug that will achieve high utilization rates because it too is made of high value HDPE.

Microwave food could meet standards by using boxes made from recycled paperboard and trays made from plastics that meet the required recycling rates. Manufacturers might also eliminate some unnecessary packaging, such as the disposable cooking tray, to facilitate compliance.

In conclusion, in the "Art of the Possible" we found that there is more than a "potential" for recycling, but rather a myriad of instances where ground-breaking technologies, innovative collection and separation techniques, and advanced designs can be used to substantially increase recycling.

#### IV. SUMMARY OF ECONOMIC IMPACTS "PACKAGE DEAL"

Policy cannot be formulated in a vacuum. Recycling is certainly a noble objective, but at what cost? This is the second question we were asked to answer.

In the report "Package Deal," we examined the economic impacts of recycling standards for packaging in Massachusetts. In this investigation, MIT economist Robert Stone found that "recycling pays". In Massachusetts alone recycling at rates of 50 percent would yield a net savings of \$175 million dollars annually while significantly reducing the amount of waste requiring disposal in the State. These benefits would result from the following:

- (1) Revenues From Recyclers for Separated Materials
- (2) Avoided Subsidies to Virgin Materials
- (3) Avoided Disposal Costs of Incineration
- (4) Avoided Disposal Costs of Landfilling

Municipalities would be the direct recipients of these savings which are potentially very significant at this time when other services are being cut.

Compliance costs for industry were also explored in the study. The authors expect that compliance costs would be small for three reasons. First, developers and entrepreneurs will aggressively market packaging that meets the standards. In general, packaging is a low-margin, high turnover business, so competition will serve to drive down costs. As a result, most packaging buyers will not need to devote extensive resources to familiarize themselves with the program or search for complying packaging. Second, some packaging is already in compliance. Third, businesses already are continuously changing their packaging, on average firms modify their packaging every two to three years. In addition there is reason to believe that standards will, in some cases, reduce costs. Research has demonstrated that regulation (or legislation) can stimulate the innovative performance of industry. Product standards, for instance, will result in the use of more consistent and uniform materials, which will in turn improve processing efficiency and reduce costs. I would emphasize that in the case of product standards regulations most likely to elicit an innovative response are those that set stringent standards while providing industry with maximum flexibility in meeting those standards, and that target industries with the capacity to innovate.

Or in the words of Michael Porter a professor at the Harvard Business School and author of the "The Competitive Advantage of Nations":

"Properly constructed regulatory standards, which aim at outcomes and not methods, will encourage companies to re-engineer their technology. The result in many cases is a process that not only pollute less but lowers costs or improves quality . . . Strict product regulations can also prod companies into innovating to produce less pollution or more resource efficient product that will be highly valuable internationally."

#### V. POLICY IMPLICATIONS OF RECYCLING STANDARDS FOR PRODUCTS

The relevant question to this committee is, how does what we learned relate to the deliberations around S.976? The answer to this question also addresses the committee's question of whether a system of national packaging standards should be included as part of a product and packaging provision in the bill.

Well, first we would conclude that there is no technical reason that requirements for high recycling rates (called utilization rates in S. 976) can not be set and met.

What we also learned is that if strong standards for packaging and other products are set, there is plenty of reason to assume that existing barriers currently limiting utilization would be overcome and that industry would come up with innovative new ways to make their products and packaging to meet such standards. In other words, if standards were constructed in a way to emphasize outcomes not methods then the innovative capacity of the free market could be relied on to achieve compliance.

Furthermore, attainment of such standards will bring about economic benefits while addressing the growing problem of increasing municipal solid waste. National policies should be developed to reduce the cost of increasing waste disposal, estimated to be over \$3.0 billion a year for packaging alone, particularly at a time when cities are cutting other essential services. Left unregulated packaging waste will continue to grow both in amount and complexity as more complicated and difficult-to-recycle materials come on the market. Product standards create a regulatory framework that calls upon the free market to develop methods to meet societal needs for safe and reliable products and packaging while simultaneously reducing their burden once they are discarded.

Therefore, if we want to get serious about recycling as a means of reducing the economic and environmental burden created by increasing waste, then, yes, a mandatory system of product standards which included packaging should be included in S. 976.

This conclusion is not only supported by our research, but from experience. As I mentioned earlier, five States have passed laws requiring recycled content [product standards] in newspapers. The enactment of these laws sent a clear signal to the marketplace that has guided investment and served to improve the market (demand) for recycled newspaper. For example, since the enactment of this legislation 12 recycling mills and 17 de-inking facilities were committed for completion by 1992. A Canadian firm is now offering \$25 a ton for recycled newspaper with 20 year contracts. The existence of markets for newspaper has meant that less is being disposed of. Previously municipalities were paying to have it hauled away.

## VI. COMMENTS ON AND RECOMMENDATIONS FOR S. 976

I will briefly direct some comments toward S. 976. S. 976 generally establishes utilization rates for different types of materials, thereby creating the expectation that industry will buy (demand) recycled materials without prescribing who specifically must purchase them. In other words, the legislation aims at outcomes not methods which we believe to be an excellent approach.

Also, under S. 976, if the utilization rates are not met, then specific methods are prescribed for how they are to be attained. This is a good approach; because, it forces manufacturers to get involved in recycling, or face more stringent regulations. It emphasizes a free market approach, but poses the specter of intervention if the market cannot remedy its own deficiencies.

In general, we feel S. 976 offers the correct approach to increasing recycling if certain amendments were made.

First, the bill should clearly mandate that utilization rates are met (not just diversion). The current language does not clearly differentiate between diversion and utilization. Diversion means materials were kept out of landfills; utilization means the materials were put into new products. Therefore, utilization standards will mean that materials are actually used in products; therefore, we can be reasonably assured that the environmental benefits of recycling were realized. Second, utilization standards would create a level of expectation that all industries that use materials, that are the source of solid waste, will play an active role in the recycling solution.

Second, the bill does not differentiate between the six different types of plastic resins. Each resin is a different material with distinct physical and chemical properties. Some resins are being recycled at high rates, namely PET and HDPE, while others are recycled at negligible rates. The leaders should not carry the laggards. The purpose of a packaging standard should be to get the materials that are most capable of being recycled into the products that contribute disproportionately to the problem. In the case of solid waste, packaging is a significant contributor to the problem, so it should be made from materials that can and will be recycled at high rates. In order to tell which materials are best, you must make the proper distinctions; therefore, S. 976 should differentiate between the six common plastic resins.

Second, the bill establishes different recovery and utilization rates for different materials used in the same product, in this case packaging. For example, plastic containers must meet a much lower standard than glass. Utilization standards for packaging should be set equally for all materials. This approach creates a level playing field in which all materials will compete evenly. When CAFE standards were enacted we did not say Ford you need to get 24 m.p.g. and GM you can get 22. Instead, we pushed for a standard that moved all manufacturers to the same level of performance. The same is true for recycling. Those materials which are most recyclable should be the ones we use in high-volume, high-turnover products such as packaging, or we will fail to reduce the burdens imposed by increasing solid waste.

As written, with the two problems I have alluded to, the bill could increase the volume of solid waste by encouraging packagers to switch from highly recycled glass (say it only hits a 50 percent rate) to a plastic that has a much lower rate because another plastic like PET is widely recycled.

Finally, S. 976 only requires manufacturers of paper, glass, metal and plastic bottles and containers to report utilization data. Recycled materials can be used in a variety of products. For example, old PET soda bottles can be recycled into carpet. The bill should require all significant users of materials to report their use (utilization) of recycled materials, or accurate utilization data will not be obtained.

## PREPARED STATEMENT OF PAMELA J. DRIVER

Thank you Mr. Chairman and members of the subcommittee for the opportunity to testify. My name is Pam Driver. I am Director of Government Relations for the Foodservice & Packaging Institute, located here in Washington. Richard Davis of James River Corporation is here with me today to assist in answering any questions you may have. Detailed responses to questions raised in your invitation to testify are included in our written testimony. S. 976 would affect our industry in a wide range of areas, but my comments will focus specifically on product and packaging questions raised by the committee. A list of attachments appears at the end of this testimony. I respectfully request that they be entered into the record.\*

\* Attachments have been retained in committee files.

The Foodservice & Packaging Institute (or FPI) is a 58-year-old trade association representing 50 manufacturers of egg cartons, meat trays, yogurt, ice cream and other containers, doilies, placemats, cups, plates, utensils, portion cups and other items made of paper, plastic and aluminum. Its members sell nationally and internationally and employ 100,000 plus employees in the United States.

Almost all packaging is recyclable when recycling includes composting and if cost is not a factor. Minimization of packaging has been and remains a fundamental component of everyday business economics. Industry is forever conscious of the costs involved in producing and shipping products. The cost of packaging is an expense which is minimized to the extent practical and is constantly balanced against the trade-offs provided by the benefits of the packaging. These benefits include product protection during shipping, handling and display at retail stores. Packagers have long used source reduction and recycling but called them such names as "cost effectiveness" and "efficiency." FPI believes that customer-driven requirements and competitive demands provide sufficient stimuli to generate innovative and research-oriented solutions.

Companies have no reason or desire to produce any product that creates lack of consumer confidence and credibility. To do so undermines their entire business. Consumers have well-earned trust in the products our members produce. As part of this process, member companies incorporate existing regulatory requirements and new technologies.

Can the voluntary approach work? FPI has demonstrated it can. An exciting example of voluntary change by our industry to benefit the environment is the voluntary phaseout of CFCs from foam foodservice products.

Even before the Clean Air Act of 1990, FPI members completely phased out the use of fully halogenated chlorofluorocarbons (CFCs). The plan to phaseout CFC-11 and CFC-12 was established in a voluntary agreement reached between polystyrene producers, the EPA and the Environmental Defense Fund, The National Resources Defenses Council and Friends of the Earth, as concerned environmental groups, in April 1988.

On February 16, 1989 the Foodservice & Packaging Institute announced that manufacturers of polystyrene foodservice products were 99 percent free of the use of CFCs in production processes. By February 28, 1990 100 percent voluntary elimination of CFCs was achieved. In November 1990, The United States Environmental Protection Agency awarded FPI the "Stratospheric Ozone Protection Award" in recognition of exceptional contributions to global environmental protection.

FPI believes that consumers have a desire and a right to know about the environmental attributes of products and packaging. This information can be useful in promoting environmentally conscious purchasing habits and can stimulate consumer support for solid waste management programs such as recycling, composting or waste-to-energy conversion. Therefore, FPI has requested that the Federal Trade Commission issue voluntary, uniform, national guidelines for the truthful and non-deceptive presentation of the environmental attributes of consumer products and packaging.

Our industry has continually sought to reduce the use of packaging as well as reducing the amount of material to manufacture products. Over the past decade the geometric configuration, weight and packaging requirements of the products and packages represented by FPI has resulted in a weight reduction of 17 to 74 percent. Manufacturers are continually experimenting and approving new technologies which allow them to make products that will accomplish the task for which they are designed with the minimum usage of raw materials. These reductions have been made while maintaining or improving performance and sanitation levels. Member companies have reduced cup weights by as much as 22 percent and placemat weights by 19 percent since 1985.

The variety of sizes lends itself to reducing waste by providing the consumer with the amount of the product they need. The same product may be packaged in several sizes based on individual consumer needs, economic resources and demands based on research. A product may require different types of packaging depending on where and how it is to be used or distributed.

FPI supports an integrated solid waste management strategy that includes recycling (and composting as a component of recycling), waste-to-energy conversion and landfilling. However, any national strategy must maintain flexibility for local community options. To set recycling rate mandates without consideration of local conditions could result in higher costs to companies, municipalities and ultimately to consumers. Depending on the community—its population, geography, size, location, socio-economic status—greater emphasis may be placed on one option over another.

Resolutions passed by the National Environmental Health Association and the International Association of Milk, Food and Environmental Sanitarians state that "the strategy of minimizing the use of single service in order to alleviate the solid waste and litter problems is a regressive step in food protection and contrary to the interests of public health." (Copies of both public health resolutions are included with the written testimony for the record.) Single use food packaging provides significant public health benefits by virtually eliminating the possibility of disease transmission. In fact, the modern disposable cup was created to reduce the spread of communicable diseases at the turn of the century. And today the need for sanitary foodservice products and packaging is greater than ever.

Food safety and public health are of paramount concern. Laws and regulations in place for more than half a century have contributed to the United States possessing one of the safest and best food supplies in the world. Legislation mandating recycled content in food contact surfaces could compromise public health and safety. There are hundreds of thousands of different packages on the market today and there are different considerations for each and every package. Recycled content decisions should be left to the manufacturer, in accordance with applicable food safety and food surface contact regulations. The decision should be based on the intended end use of the product and should be item specific rather than category specific, as mandated regulations tend to be. Factors related to the collection, cleaning and re-utilization of recycled materials are all critical in this decision process. Manufacturer's liability is also a concern.

Arbitrary legislation, mandating the use of post-consumer recycled materials in food packages, may be in conflict with the U.S. Food and Drug Administration's Good Manufacturing Practices sanitary guidelines. It may also overlook compliance with existing food safety laws and regulations. In addition, mandated levels of recycled materials may exceed current technical capability and compromise either safety or product integrity. Industry is continuing to explore technically and economically viable approaches to the incorporation of recycled content that are consistent with public health and safety considerations, as well as FDA regulations.

We share some of the concerns of the National Food Processors Association. Clearly, the primary purpose of food packaging is to preserve and protect the safety, taste and wholesomeness of food products through our complex national distribution system.

The focus is on two areas: first, chemical, microbiological and physical contamination of materials destined for food contact products; second, the loss of physical and other performance characteristics necessary to assure the integrity of packages during storage, distribution and ultimate use by consumers.

Since packaging materials may become contaminated in the waste stream, recycling processes must deal with contaminants and produce materials that comply with FDA requirements. In many cases, these recycling processes are in the development stages and further research is needed. The incorporation of recycled materials must not compromise the capability of a package to protect and preserve public health.

While FPI recognizes the inclusion of industry representatives on the proposed Products and Packaging Advisory Board, we question the need for such a board. Much attention has been focused on the role of packaging in the waste stream, and implicit in creation of the Board, is the notion that products in commerce today are generally overpackaged. This does not take into consideration the many values of packaging and the potential costs and increased waste generated from damage, spoilage and loss in product quality.

While there are limited instances of over packaging, there are many more instances where market-driven source reduction and efficiency are the case. EPA has reported on the prominence of reduction and efficiency in packaging. EPA reported that between 1970 and 1986, total packaging waste grew at a rate just over half that of the overall population growth rate and one-third that of municipal solid waste generally. There are already strong economic incentives existing for packagers to reduce packaging. Voluntary guidelines have already been developed by packaging professionals and are currently being implemented, where appropriate, by manufacturers and users.

The development of innovative and creative packaging designs using new technologies could be stifled by the Board. Constant improvements in product design to reflect technological and economic changes would make Federal regulation of packaging extremely complex and cumbersome.

Included with our testimony is a document titled, "Packaging in America in the 1990's: Packaging's Role in Contemporary American Society—The Benefits and

Challenges." This study provides a useful overview of the benefits of packaging and the role packaging plays in food packaging, distribution of foods and quality of life.

The role of packaging includes informing consumers and enabling marketers to draw attention to product uses, benefits, new product innovations and disposal options. If marketers are unreasonably restricted in the options available to call attention to new products and features, the high cost of developing new innovations will prevent new improvements in products and services.

FPI feels that the procedure for determining if a substance presents an unreasonable risk of injury to health or the environment, under the Toxic Substances Control Act, provides the proper and necessary safeguards for regulating product composition.

The question was posed concerning the use of lead, cadmium, mercury and hexavalent chromium in products and packaging. Our industry complies with the Council of Northeastern Governors (CONEG) Model Toxics Legislation. Most of the food-service disposables and packaging industry use water-based inks. The change to water-based inks has resulted in the virtual elimination of solvent emissions. With water-based inks, only water vapor is emitted.

For the most part, there have not been problems in using substitutes for lead, cadmium, mercury and hexavalent chromium. In some instances, color tone and shading may have been slightly altered or reduced as a result of substitute materials. This continual tuning of product packaging color and design is normal with consumer products to reflect new technology methods and processes as the products move from manufacturer through distribution to the consumer and to disposal. Also, product information requirements of consumers and regulations result in ongoing review and change.

Competition among packaging materials and suppliers results in continuous pressure to use less packaging, providing an automatic "source reduction" ethic in the packaging industry. It is important to evaluate solid waste decisions with regard to all environmental impacts, including public health and safety.

The consumer of the 1990's is demonstrating desire and demand for full and complete information on how products are made, how they are used and how they may be disposed of safely. The very competitive nature of our marketplace passes those desires and demands on to the manufacturer and the distribution system to address. Those companies/organizations who do not fully address consumer needs will find themselves losing market share and distribution support for their products.

Consumers are educated about product benefits and disposal options from a multitude of sources such as: Product packaging; Word of mouth; Consumer magazines; Television shows; Newspapers; Direct mail i.e. coupons; Radio shows; Store displays; Schools; Workplace requirements; Advertising in all media: Television, cable TV, radio, direct mail, store displays, newspapers, magazines . . . ; Legislative regulations at local, State and Federal levels; Industry and trade associations; Educational and governmental agencies.

Responsibility for complete and up-to-date consumer education is multi-faceted and rests with all parties listed above and not with any one or two sources. The role of consumer education is to inform and enable the consumer to maximize the effective use of a product, understand the benefit of the product and how to dispose of the product for recycling, composting, waste-to-energy conversion or landfilling. All products may not meet all disposal options. In addition, the cost of all disposal options must be considered before making waste management decisions.

We support proper waste management options for the disposal of products and packaging. Congress must ensure that manufacturers retain maximum flexibility to utilize recovered materials in the most economically and technologically feasible manner. It is important that industry, all levels of the government and consumers work together to reach integrated solid waste management solutions.

*However, safety, health and sanitation needs must remain paramount in all environmental decisions.*

I would like to commend you, Mr. Chairman, and the entire Subcommittee for your interest in improving the Resource Conservation and Recovery Act. We support your holding hearings to arrive at a comprehensive, well-reasoned package of RCRA amendments. The Foodservice & Packaging Institute, and its 50 members, look forward to working with you and the subcommittee in the months ahead in developing comprehensive RCRA legislation that provides meaningful solutions to legitimate waste management concerns. Thank you for this opportunity to share our perspective with you.

## STATEMENT OF AMERICAN PAPER INSTITUTE

The American Paper Institute (API) appreciates this opportunity to present its views on packaging and product labeling in the context of RCFA reauthorization.

API is the national trade association of the pulp, paper and paperboard industry. The association's 175 member companies account for more than 90 percent of the production of pulp, paper and paperboard in the United States.

## 1. PACKAGING

While municipal solid waste (MSW) includes materials as diverse as yard and food wastes and packaging, considerable attention has been focused on the role of packaging in the waste stream. Packaging and shipping containers constitute one-third of municipal solid waste. Still, the attributes of packaging and their relationship to the waste stream are not commonly understood. Any consideration of measures to address packaging on the basis of its waste stream characteristics should also recognize its essential contributions to the quality of life and economic well being of industrialized nations.

The U.S. enjoys the world's most efficient and effective materials distribution system, and packaging assures the safe arrival of goods at destination. Modern packaging has increased efficiency and, in the area of food packaging in particular, has helped reduce waste generated from the household. For example, in the past four decades, the time required for food preparation in the U.S. has decreased by 50 percent, due in part to innovative packaging. Improved food packaging to meet consumer needs for quick preparation and appropriately sized portions has resulted in reduced food spoilage and less discarded food wastes in MSW. (According to the United Nations, 17 percent of all food in the U.S. spoils in commerce, compared to a 50 percent spoilage rate in the Soviet Union and a 70 percent spoilage rate in India.)

Packaging also serves a necessary communications function, providing manufacturers with an opportunity to convey important, and often required, information to consumers on product contents, instructions for preparation, nutritional data, uniform pricing codes, health warnings, and usage dates. It also serves a function vital to the U.S. market economy—that of advertising the distinguishable attributes of products in commerce.

API believes that packaging should be recognized as an essential component of a thriving economy. Indeed, an exchange economy such as ours cannot function without packaging.

*A. Paper and Paperboard Packaging and Source Reduction*

Paper and paperboard packaging and its presence in municipal solid waste is a manageable product of a healthy economy and a sophisticated system of goods distribution. Efficiency in all packaging, through market-driven source reduction efforts by packaging manufacturers and their customers, has already resulted in significant environmental gains. The U.S. Environmental Protection Agency has reported that, between 1970 and 1986 total packaging waste grew at a rate just over half that of the population growth rate, and one-third that of municipal solid waste generally. As manufacturers search for ways to reduce costs, there is continued pressure to reduce the amount of raw materials used in packaging and the amount of wastes generated.

To fully understand this dynamic, one should realize that—in the case of paper and paperboard packaging—packaging is an integral part of the cost of a product. The demands for reductions in that cost are the natural result of sound business.

The following are some concrete examples of source reduction in paper and paperboard packaging:

- The amount of paperboard packaging material used to produce half-pint milk cartons has been reduced 21 percent since 1970.

- Since 1974, the amount of paperboard packaging needed to manufacture a half-gallon ice cream carton has decreased by 12.5 percent.

- For frozen food packaging, the amount of paperboard required has decreased by 40 percent since 1975.

- Cartons used for fresh bakery products have reduced the amount of paperboard packaging required by 37 percent over a 10-year period. These examples demonstrate that the marketplace, driven by manufacturer's cost considerations and consumer demands, is able to achieve substantial reductions in paperboard packaging, while retaining the essential attributes of packaging that consumers desire. API recognizes that market-based source reduction is an important component of effective MSW management.



### *B. Paper and Paperboard Packaging and Recycling*

Beyond the market-driven incentives to reduce packaging materials at the source, the relationship between packaging and recycling is central to a full understanding of packaging's role in MSW. In 1988, more than 33 percent of all post-consumer paper and paperboard packaging was recovered for recycling. According to the latest EPA data compiled by Franklin Associates, paper and paperboard account for 80 percent of all packaging materials recovered for recycling while contributing 58 percent of the packaging and shipping containers generated in MSW.

Corrugated containers represent 70 percent of all the paper and paperboard packaging discarded into the waste stream. These materials have an unparalleled recycling record, with more than 50 percent of all corrugated containers currently being recovered for recycling. Today there is a market for virtually all the corrugated containers that can be collected. The real challenge in this area will be to expand collection rates for corrugated containers in the next few years.

For the other 30 percent of paper and paperboard packaging that ends up in MSW, similar progress is being made. Importantly, in 1990, it is estimated that almost 15 percent of these products were recovered. This rate will continue to grow as more supermarkets adopt sack return incentive programs for consumers and provide recycled content bags. In addition, paper bags and sacks are using increasing amounts of recycled fiber.

It must also be realized that recycled paper and paperboard packaging often utilizes other, nonpackaging recovered paper grades, thus reducing the overall portion of paper in solid waste. The prime example is 100 percent recycled content paperboard, made entirely from recovered paper, which accounts for about half of all folding cartons in U.S. grocery stores. Producers of folding cartons made from recycled paperboard consume, for example, substantial amounts of the old newspapers collected in this country.

Indeed, paper and paperboard packaging not only provides essential benefits to consumers, it also represents a substantial and growing "market" for the paper that is being recovered in the U.S. This market demand directs recovered paper to those packaging materials best suited to use secondary fibers, and yet ensures that the functionality of paper and paperboard packaging is not compromised.

Use of recycled materials in paper and paperboard packaging is merely part of a broader paper industry commitment to maximize the overall utilization of recovered paper in its products. The industry has publicly announced a goal to recover for reuse, both in the U.S. and abroad, 40 percent of all the paper consumed in this country by the end of 1995. This commitment to paper recycling will involve the expenditure of billions of dollars to expand existing recycling capacity, and will be reflected in the increased use of recycled fiber in all product categories, including paper and paperboard packaging.

### *C. Legislative Proposals on Packaging*

API believes that efforts to control the volume of packaging through arbitrary regulation, tax mechanisms, or product bans would be inefficient and counterproductive. Such measures could lead to a reduction in the selection and quality of consumer goods rather than a reduction in municipal solid waste, burdening consumers and society unnecessarily. Packaging materials must serve certain functions, not only for the consumer but for the manufacturer that uses the material and the distributor that gets it to market. Arbitrary recycled fiber requirements or source reduction goals could disregard these functional requirements and result in market dislocations, lower packaging quality, increased damage and loss, higher costs and less competitive products in the world marketplace.

Source reduction is best implemented through incentives provided by the marketplace—cost saving opportunities and consumer preferences. Voluntary approaches by manufacturers have been proven to work best because they stimulate a range of innovative solutions, leading to more broadly accepted practices in commerce. Moreover, packaging concerns should be addressed through an integrated approach to solid waste management. All management options—recycling, source reduction, waste-to-energy, composting and landfilling—should be developed through comprehensive, long-term planning. Importantly, paper and paperboard packaging is especially compatible with this range of waste management options.

### *D. Environmental Marketing Principles*

The purpose of product labeling is to provide information about a product that its marketers feel will be useful and, presumably, appealing to potential customers or consumers. Government's traditional role has been to ensure that such claims are not misleading or untruthful and, particularly in recent years, to encourage or re-

quire that certain information be provided. Safety and nutritional labeling of products falls into this latter category as, increasingly, does environmental labeling designed to indicate pursuit of market-driven environmental policy objectives.

API believes Federal guidance is absolutely essential to bring uniformity to, and ensure responsible use of, environmental claims in product marketing. There is considerable confusion as to the appropriate content and context of such claims. And the increasing number of inconsistent State regulations in this area threatens to impose substantial barriers to efficient interstate product marketing. As Congress addresses environmental marketing issues during RCRA reauthorization, a number of general points should be considered.

*Uniform definitions and guidelines.* API believes that some form of standardized definitions and guidelines should be developed to provide meaning to environmental terms used in product advertising and labeling, and that Federal leadership by the Congress in this area is essential.

Critically important, in API's view, is that any standards be uniform, thus avoiding different State requirements that would impede the efficient distribution of products across political boundaries. Conflicting State standards present significant, if not insurmountable, barriers to marketers who want to label products for national distribution. Therefore, even in the absence of preemptive national guidelines, it is imperative that State and local regulations be consistent with one another.

*Paper recycling symbols.* Inconsistent State regulations are of immediate concern to the recycling segment of the U.S. paper industry, which has a decades-long interest in labeling and recycling promotion. The widely recognized "chasing-arrows" symbols that identify recycled and recyclable paper products have been promoted by the industry, and particularly by manufacturers of 100 percent recycled paperboard, since the early 1970's. These symbols, developed by one of API's member companies, have become synonymous with the recycling of paper and paperboard, which currently account for approximately 80 percent of all "postconsumer" material (as identified by the U.S. Environmental Protection Agency) recovered in this country for reuse. The chasing-arrows provide two widely recognized identification market for recycled and recyclable paper products, and API strongly believes their historic use in the marketplace must be preserved.

*Specific, fact-based labeling.* API believes that environmental claims should be as clear and specific as reasonably possible, as well as fully supportable. In this regard, we have concern about use of product life cycle, or cradle-to-grave, environmental assessments, while still potentially helpful as a tool to identify possible areas where pollution prevention or waste minimization could be achieved, we believe that, until clear, consistent and scientifically sound protocols are designed, they should be used with extreme care, if at all, in product promotion. Efforts such as those of the Society of Environmental Toxicology and Chemistry (SETAC) to develop a methodology for preparation of fact-based, peer-reviewed life-cycle inventories of environmental loadings are a step in the right direction.

*Ensuring a "level playing field."* Policies must be "material neutral" by providing the same or essentially comparable standards for competing or substitutable materials. For example, the criteria for determining a "recycled" or "recyclable" container should be essentially the same for all containers (i.e., paperboard, plastic, glass, aluminum, etc.). Additionally, within material-specific product lines, any guidelines must treat all manufacturers alike and not inadvertently reward a new (or changed) market entrant or process at the expense of existing producers whose products or processes have the same or similar attributes.

*Application should be prospective.* API strongly recommends that any labeling guidance or rules be applied prospectively and not to products or packages already in the consumer pipeline. Adequate time should be provided for manufacturers to make necessary adjustments in labeling practices, if appropriate, and for products to "clear" retail shelves prior to enforcement.

#### *E. The Environmental Marketing Claims Act (S. 615)*

With respect to S. 615, the "Environmental Marketing Claims Act of 1991," API welcomes the voluntary aspect of the bill, which imposes standards only if a manufacturer chooses to label its product. However, the proposed legislation misses perhaps the most important objective of Federal guidance in this area by failing to provide for national uniformity in the face of conflicting State standards. Federal preemption for labeling standards is essential to maintain efficient distribution of products across State boundaries, absent consistent State and local regulations. In this regard, S. 615 is inadequate to address concerns of product manufacturers.

The following are specific paper industry concerns with the provisions of S. 615:

*Section 5:* The provision establishes an Independent Advisory Board to make recommendations to the Administrator regarding environmental marketing claims, yet the authority of the Board is undermined by specific labeling requirements elsewhere in the bill. While not endorsing the creation of such a Board, API believes that, should an advisory panel be created, the knowledge and expertise of that body should be relied on to determine appropriate standards for EPA to consider in promulgating regulations. To deny the Board that authority by providing specific standards in the bill is simply counterproductive.

*Section 6:* As noted above, API objects to provisions of Section 6(b) (7) which place in statute specific standards for use of various environmental claims. While statutory guidance related to objectives and general criteria that should be used for establishing such rules is certainly appropriate, we believe that specific percentage requirements should be avoided. This kind of specificity should be left to a formal rulemaking.

In addition to the arbitrary percentage thresholds contained in this section, two other issues are of serious concern to API. The first pertains to the reliance on post-consumer material when defining recycled content and the related restriction on use of symbols. Our other objection relates to the requirements in Section 6(b) (7) (D) on use of terms such as "biodegradable" and "compostable." Given the evolving technologies associated with waste management techniques that seek to take advantage of degradable products, we find the restrictions in the legislation governing use of these terms far too specific.

Our objection to the reliance on post-consumer material for determining recycled content in products deserves a more lengthy explanation. Traditionally, recyclable paper has been classified into almost 70 specific grades that define its quality and characteristics for subsequent reuse as a raw material. In recent years, a new and confusing criterion has come into play, the distinction between what is commonly referred to as pre- and post-consumer paper. This distinction attempts to delineate between sources of recovered paper, rather than their characteristics and fiber type, the relevant factors for the manufacturer who must reformulate the material to make products of acceptable quality and performance.

Precise verification of post-consumer paper products is also not always possible. For example, by some definitions, a newspaper would become a post-consumer material only after it had been used by a "consumer" and then discarded or separated for recycling; it would be an "over-issue" or pre-consumer material if it was never purchased and thus stayed at the newsstand prior to being recovered. It should be noted that under the definition in S. 615, over-issue newspapers and magazines likely would not even qualify as pre-consumer waste. To the recycler, however, both the pre- and post-consumer newspaper look the same and require the same preparation for reuse as a raw material.

We should also note that we are aware of no public opinion research that verifies that consumers distinguish recovered paper based on its source. Therefore, to our knowledge there is no factual basis to conclude that consumers equate "recycled" products as those made only from post-consumer material.

Furthermore, as a policy matter, such distinctions will not lead to more recycling of post-consumer paper than will otherwise occur. Today, 70 percent of all paper recovered in the U.S. for recycling is what is considered post-consumer material. As the industry moves to reach its 1995 goal to recover—for domestic recycling and export—40 percent of all paper Americans consume, nearly 90 percent of all the increased tonnage recovered will come from the post-consumer stream. The point is that (a) the vast majority of paper recovered for recycling today is post-consumer material, and (b) virtually the entire focus of expansion in future recovery will be on the post-consumer stream.

Finally, the subcommittee should be aware that definitions of key terms, including the practicality of the post-consumer concept, are now undergoing review and scrutiny by key entities, the most notable being the U.S. Environmental Protection Agency, the Recycling Advisory Council and the ASTM. One alternative to use of the post-consumer universe receiving consideration—and which API feels has merit—is to identify a new classification of recyclable paper that would include all post-consumer products as well as paper and paperboard generally requiring deinking, decoating or cleaning to prepare the fibers for inclusion in recycled furnish. This universe, in our view, would offer a more practical and readily identifiable source of material than a strict post-consumer criterion as one measure in determining "recycled" or "recycled content" products.

In any event, however, we believe it is inappropriate for a statute of this nature to arbitrarily equate recycled content with post-consumer material. At a minimum, this decision should be left to rulemaking.

API also objects to the implication of Section 6(c) that standards should be set in order to promote "best available use" of material and "best available technology." Standards should be established for voluntary labeling to provide consumers with information about the environmental impact of their purchasing decisions. Assuming that, through Federal guidance, accurate and meaningful information can be provided, the marketplace itself will drive product manufacturers to innovative new uses and technologies. Standards should not be used as a mechanism for circumventing this market-based response.

**Section 7:** API believes that the certification requirements of the bill would be extremely time-consuming and disruptive of market entry for new products. This would be particularly true of the recertification requirements, which would apply to any product when a relevant environmental claim regulation has been revised. Any procedures established for using environmental marketing claims must recognize the legitimate concerns of manufacturers to bring products to market, and must be tailored accordingly to expedite approval by the appropriate Federal authority.

**Section 12:** API believes that a public information campaign on the meaning of environmental claims could be extremely productive and could result in a better educated consumers. Such efforts are useful toward enhancing the overall effectiveness of the marketplace as a driving force for expanding recycling and other desirable activities.

**Section 13:** This provision explicitly allows States to enact standards more stringent than those promulgated by EPA. API believes this would be counterproductive, and that the real value in Federal guidelines for environmental labeling is to establish a nationally uniform framework. Unless the States and localities are committed to applying a consistent set of rules, Federal preemption is necessary to provide uniformity for the benefit of both product manufacturers and consumers.

API sincerely appreciate the subcommittee's consideration of the U.S. paper industry's views on these important issues.

NATIONAL ASSOCIATION OF MANUFACTURERS  
WASHINGTON, DC.

August 7, 1991

Hon. Frank Lautenberg  
United States Senate  
Committee on Environment and Public Works

DEAR SEN. LAUTENBERG:

On behalf of the National Association of Manufacturers (NAM)'s, I would like to express our concerns with issues concerning the use of environmental marketing claims and your bill, S. 615, "The Environmental Marketing Claims Act of 1991."

On July 17, 1991, NAM submitted comments to the U.S. Federal Trade Commission on the use of environmental labeling claims. NAM urged the FTC to provide guidelines on how terms can be used without being misleading or deceptive. We hope to continue this dialog as developments progress. NAM has the following reactions in regard to Federal legislation:

- **Preemption.** To avoid confusion, especially to consumers, any proposed Federal legislation should allow Federal law to preempt state standards on the use of environmental marketing claims. Uniform national standards are required for industry to be competitive in national and global economies.

- **Documentation.** Federal legislation requiring EPA to certify individual manufacturers' claims is unnecessarily burdensome and inappropriate. Companies should maintain on file in written form documentation that supports the validity of the environmental claim used.

- **Criminal Penalties.** In Federal legislative proposals, criminal penalties are not needed and would only discourage the use of environmental marketing claims altogether. Civil penalties under the current law should be used where applicable.

- **National Consensus Standards.** Federal agencies should use national consensus standards where they exist. The basis of the issue, eliminating consumer and industry confusion, will only come from a consensus-based approach to determining a standard and creating definitions. Such a standard should be created in a standard-setting organization in which all parties involved will have a role in determining a fair standard, e.g., at the American National Standards Institute (ANSI) or the American Society for Testing and Materials (ASTM).

- **Terms.** Terms or definitions should not be determined in Federal legislation. The terms should be created with full participation from experts and based on sound science. A voluntary standards-developing organization, such as ANSI or ASTM, should determine the meaning of words like "recyclable," "recycled," etc.

Applying to the environmental labeling debate as a whole, NAM believes the following:

*Overly Simplistic Logos Are Misleading*

NAM opposes the use of overly simplistic logos, symbols or seals that do not consider the complexity of environmental science. A product label, when correctly used and understood by consumers, can facilitate consumer education.

*What Environmental Labeling Claims Should Communicate*

NAM supports voluntary environmental labeling designed to communicate the following:

- A manufacturers' commitment to the environment and protection of human health;

- The shared responsibility of government, industry and the consumer to create and support the recycling infrastructure; and

- Information pertaining to recyclability, reuse and use of recycled materials.

NAM encourages the use of uniform standards for voluntary labeling consistent with the intent of the Commerce Clause of the U.S. Constitution to avoid barriers to interstate commerce.

We have attached our comments to the FTC for your convenience.\* Please submit this letter in the official docket for the hearing held on July 31, 1991, in the Senate Environment and Public Works Subcommittee on Environmental Protection. We hope to continue this dialog in the future. Again, thank you.

Sincerely,

RICHARD H. SEIBERT

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\* The attachment has been retained in committee files.

# **RESOURCE CONSERVATION AND RECOVERY ACT AMENDMENTS OF 1991**

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**WEDNESDAY, SEPTEMBER 11, 1991**

**U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION,  
*Washington, DC.***

## **MINING AND OIL AND GAS WASTES**

The subcommittee met, pursuant to notice, at 9:30 a.m. in room 406, Dirksen Senate Office Building, Hon. Max Baucus [chairman of the committee] presiding.

Present: Senators Baucus, Jeffords, and Symms.

## **OPENING STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA**

Senator BAUCUS. I welcome everyone here after the August recess. I do not know how many members of this subcommittee will be able to attend this morning's hearing; there are many conflicts. The Judge Thomas hearing is one. The Commerce Committee and other committees are also meeting. I say to the witnesses and to others who are attending this hearing that the lack of presence of members of the committee in no way diminishes the members' interest in the subject. I think that after the August recess just too many hearings have been scheduled. It is human nature to procrastinate. We're now suffering the consequences in the Senate after the August recess.

Since June of this year, we have held six days of hearings on legislation that Senator Chafee, Senator Burdick, and I have introduced to reauthorize the Resource Conservation and Recovery Act. So far, we have heard from 53 experts on recycling, pollution prevention, and interstate and international waste exports.

This week we will hold a series of hearings on waste management issues like sham recycling, mining waste, oil/gas wastes, and municipal ash. Next week we will continue our RCRA hearings with EPA Administrator Bill Reilly, who will be prepared to discuss the full complement of RCRA reauthorization.

Today, we will focus on mining waste and oil and gas wastes. These wastes are generated in huge amounts—some 2 billion tons of mining wastes at 2,500 sites are generated each year, and almost 4 billion tons of drilling muds, reduced waters, and other oil/gas wastes are generated at 8,000 oil and gas sites each year. In com-

parison, only 180 million tons of garbage are tossed out each year, and 250 million tons of hazardous waste.

For more than a decade there has been a heated debate over how best to manage these large volume wastes. The Congress, the EPA, the regulating community, and others have struggled with a number of tough questions, such as: What are the health and environmental hazardous of such wastes? What kind of damages have occurred from these wastes? Are these wastes different from other industrial wastes, and how such these wastes be managed; as hazardous wastes, as solid wastes, or in some other way?

In an effort to answer these questions, the Congress directed the EPA in 1980 to study these wastes. And we suspended the regulation of these wastes under subtitle C until those studies were complete. Since then, some studies have been finished and some of the questions answered. We now know that some oil and gas wastes contain arsenic, benzene, and can be radioactive. We know that mining waste is often laced with lead, arsenic, cadmium, and other contaminants. We know that 60 Superfund sites are from mining activities. And we have evidence of acute impacts on animal life, fish, and plant life at mining and oil/gas sites that have discharged wastes and leachates into the environment.

Just last year in my State of Montana, at the Warm Springs Ponds near Anaconda, hundreds of fish were killed when contaminated mine tailings were washed into the Clark Fork River. We know that regulating these wastes as hazardous wastes will be prohibitively expensive. As we also know in Butte, Montana, cleaning up for past mistakes can be very expensive.

For those of you who aren't familiar with the Butte Superfund site, let me tell you, it is one of the most complex mine waste sites in the Nation. We have spent more than \$50 million since 1983 to begin clean-up and we haven't even begun to scratch the surface; it will take millions more to clean it up right.

One of the lessons that we can all learn from our Butte experience is that it pays to do it right the first time. But one question that we still have not yet answered is how to do it right; how best to control these wastes and prevent future Superfund sites from occurring. Some believe that mining and oil and gas wastes are so dangerous that hazardous waste controls are needed. The EPA, however, believes that these wastes should not be controlled like other hazardous wastes. Rather, they should be regulated by States with other approved State regulations and expanded EPA oversight.

Unfortunately, it has been five years since EPA called for enhanced State regulations for mining wastes, and it still has not issued those rules. And it has been four years since EPA called for improved State regulations for oil and gas wastes. Also, again, which have not yet been issued. Consequently, for more than a decade, mining and oil and gas wastes have been mostly unregulated.

Today we will hear from experts on mining and oil and gas issues. We'll hear from those who support strong Federal regulations and from those who support State regulations. I intend to explore with the witnesses several thoughts and several questions: Just how dangerous are these large volume wastes? Should they be

regulated like other hazardous wastes? Or, do we need a special regulatory approach for these large volume wastes, and, if so, what type of approach works best?

I thank our witnesses for coming this morning and sharing their expertise with the committee.

Our first panel includes Mr. Bob Krueger, Commissioner of the Railroad Commission, State of Texas; Larry Bell, Vice President of ARCO Oil and Gas, on behalf of the API, from Dallas, Texas; Chris Shuey, Director of Community Water Quality Program, Southwest Research and Information Center, from Albuquerque, New Mexico; Tim Dowd, Executive Director, Interstate Oil and Gas Compact Commission, Oklahoma City; Denise Bode, President of Independent Petroleum Association of America; and William Fontenot, Environmental Specialist with the Louisiana Office of Attorney General, Baton Rouge, Louisiana.

While the panel is coming to the table, I want to mention that a statement from Senator Chafee will be made a part of the record at this point.

[Senator Chafee's statement follows:]

OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

The oil and gas and mining industries represent two critically important industries in our society. By their very nature, however, these industrial operations disturb and even destroy natural resources in order to extract valuable energy resources and mineral deposits. Our country depends on these resources.

The problem is that these industrial processes also generate huge volumes of waste material. There is no disagreement on the point that much of this waste is apparently not hazardous. However, it is also clear that other waste streams generated by these activities meet RCRA's definition of hazardousness. Despite their toxicity, however, RCRA currently exempts oil and gas and mining wastes from regulation under the Act's hazardous waste regulations.

Among the very difficult questions before us this morning regarding these activities are: (1) should some of these waste streams be regulated as hazardous; and (2) should the Federal Government be responsible for a regulatory program, or should we leave it to the States?

Ultimately, the bottom line questions are: what needs to be done to prevent contamination of the environment from oil, gas and mining activities; and how can we ensure the health and safety of current and future generations of people who live or who in the future may live, in communities surrounding these activities?

In 1980, Congress decided that it needed more information before answering these questions and asked EPA to study oil and gas and mining waste among others. In both cases, EPA reported that the waste produced by the oil and gas and mining industries did not warrant regulation as hazardous waste under RCRA Subtitle C, and that for the most part, adequate regulatory authority over the industries' operations existed at the State level.

Yet, as we will hear from some of our witnesses today, environmentalists, citizens, and even some State officials claim that EPA's studies were inadequate and that minimum Federal regulation of these activities is desperately needed.

Some of our witnesses this morning will testify about the serious damage being caused to some of the Nation's most productive wetlands as a result of mismanagement of oil and gas waste. Other witnesses will testify about the dangers posed to groundwater by certain mining practices which involve the use of cyanide to leach the last drop of precious elements from mined rock.

After more than a decade of debate, it appears that Congress may finally need to sort out some of these issues. We need to develop a solution that provides some minimum Federal assurances that human health and our environment are protected to the greatest extent possible while allowing reasonable and necessary development of our energy and mineral resources.

Mr. Chairman, I look forward to working with you in this effort and comment you for holding these hearings.

Thank you.



Senator BAUCUS. OK, Bob, we will begin with you.

**STATEMENT OF ROBERT KRUEGER, COMMISSIONER, RAILROAD  
COMMISSION OF TEXAS, AUSTIN, TEXAS**

Mr. KRUEGER. Thank you very much, Mr. Chairman. I am pleased to be here. I come here today as one of the three members of the Texas Railroad Commission, a century-old commission which, since 1919, has regulated the exploration, production, and transportation of oil and gas in our State. I appreciate being here because I think what you are considering is of consummate importance to the USA and particularly to my State, which produces about a quarter of the oil and a third of gas in this country.

As a member of a conservation commission, I am charged with protecting the environment, protecting the people whom I represent; and, like you, I am elected to this office. So, like you, I view my role as being that of a steward rather than simply a user or a destroyer. I am convinced that with care your legislation can benefit our environment and future generations. I am also convinced that if the wrong things were done in this legislation, it could affect tens of thousands of jobs, it could devastate the economies of some producing States, and it could transfer responsible environmental exploration and drilling activities from the U.S.A. to locations abroad.

If the wrong policies were to be enacted, I think much of the domestic industry would simply be killed in this country. The multinational energy giants would survive, but they would speed their flight from America to search for oil and gas abroad. Already, six out of seven of the major energy companies spend the majority of their exploration and production budgets overseas. I don't expect such a flight from our shores. But if the wrong policies were adopted, it could.

If I look just at my own State, there were 250,000 oil and gas wells producing in 1989, and over 150,000 people employed in jobs relating to oil and gas extraction. If you stop all the ranching in Texas and probably all the ranching in Montana, it would not have as big an economic impact as potentially this bill would have. If production wastes were to be regulated as industrial wastes, I think that oil and gas extraction would decline precipitously.

As you are perhaps aware, the Gruy study estimated that 147,000 existing oil wells in Texas alone would have to be plugged and abandoned—a decrease of 74 percent, and they estimated that 27,900 gas wells would have to be plugged and abandoned, which would be a decrease of 56 percent—if production wastes were classified as industrial wastes. I think that such a classification would sweep like a scythe through our State, levelling oil derricks and crippling educational and operational budgets. Meanwhile, the huge capital outflows would leave this country and go abroad. The lines of oil tankers would increase, unemployment lines would lengthen, and we would see our dollars sucked up in dry sands of the the Middle East.

My reading of Senate Bill 976 is not that it intends to treat production waste as industrial waste—and I am not trying to be a Jeremiah. But I do want to offer this caution because I think were

that to happen, the consequences would be so severe that it would be irresponsible of me not to mention that such a possibility exists. Just as you have concern for the jobs and well-being of people of your State, so do we, as elected commissioners, have exactly that same concern for our environment. We want to take the long-term view.

The Railroad Commission began regulating oil and gas wastes in 1919. Since that time, we have adopted many rules and regulations to upgrade drilling and production practices. But over 50 years before there was an EPA, the Railroad Commission established rules regulating the protection of our fresh water supplies. There have been numerous improvements since. And while we appreciate the concern in Washington for our water quality and our environment, I can guarantee you that nobody is more concerned about the quality of water and the environment than the people who are elected in Texas to look after these responsibilities, and the people who eat food from that soil and drink the water that is from that ground, and who breathe the air around those oil wells.

Long before there was an EPA, we were focusing on these issues. Under FDR, the Interstate Oil and Gas Compact Commission was established to work with other States. We now have added a number of additional authorities to our arsenal since 1980. I list them in my full written testimony, but I would just mention that in 1983 we were given the authority to fine people \$10,000 a day for pollution violations. In this year's legislative session, we were given \$10 million or more by the legislature to clean up oil field pollution.

Ninety-eight percent, as you know, of the oil and gas wastes consist of salt water. Essentially, this is salt water taken from the ground and returned to the place where it was in nature. I view the fact that we, in Texas, get ten barrels of salt water for every one barrel of oil really like harvesting—we are removing the oil and salt water from the ground, and we are harvesting the oil and returning the salt water to where it was in nature. It is no different really from the process of picking apples from an apple tree—we want to harvest that which is usable and we want to return to nature that which was there before.

1.6 percent of our waste stream consists of drilling muds, which are largely water, clay, and barite, and the remaining 0.4 percent is so-called associated wastes.

I would simply say, because I know that my time is limited, that what we want to do is have you be convinced, as we are convinced, that nobody is more concerned for regulating these wastes than we. That we have not a perfect, but certainly a very long track record and a great deal of experience—we've got hundreds of people who work on this every day—far more experience than is likely to come out of Washington. We view these wastes as being wastes which we are able to handle; and we are constantly working on improving our procedures. But I would say it is important to maintain the flexibility that State regulations can allow. And we want you to focus on the large national problems and leave us with the responsibility for dealing with wastes that are high in volume but very low in toxicity.

With that, Mr. Chairman, I appreciate the invitation to be here, and I'll be glad later to respond to questions.

Senator BAUCUS. Thank you very much, Bob. You and I have known each other a long time and I very much appreciate the work that you've done in many different capacities. I thank you very much for your help here this morning.

Next, Mr. Bell.

Before I proceed, let me remind the witnesses, and I apologize for not mentioning it earlier, we have a five-minute rule here. When the red light is on, that means five minutes are up. I do urge all of you to put your complete statements in the record. All of your formal testimony will be included in the record.

Next, Mr. Bell, who is Vice President of ARCO.

**STATEMENT OF LARRY N. BELL, VICE PRESIDENT, ARCO OIL AND GAS COMPANY; ON BEHALF OF AMERICAN PETROLEUM INSTITUTE AND THE MID-CONTINENT OIL AND GAS ASSOCIATION, DALLAS, TEXAS**

Mr. BELL. Thank you, Mr. Chairman. I am testifying today on behalf of both the American Petroleum Institute and the Mid-Continent Oil and Gas Association. I appreciate the opportunity to appear here. The issue of oil and gas exploration and production waste management and regulation is of overriding importance to our industry and to America's energy security.

We believe S. 976 took the right approach in excluding oil and gas wastes from the bill's new industrial waste standards. However, there are others that are suggesting a whole new RCRA regime is necessary.

Mr. Chairman, the domestic industry, from the smallest independent producer to the largest integrated company, is united in its concern about the treatment of oil and gas production waste in the context of RCRA reauthorization. We believe there is good reason for that concern. The consequences of decisions you could make might result in the loss of millions of barrels of domestic energy production and could be measured in tens of billions of dollars by the industry.

The subcommittee has been provided with extensive information concerning the study conducted by Gruy Engineering for API. One scenario analyzed by Gruy assumed a hypothetical case in which oil and gas wastes were regulated under the industrial waste management provisions of S.976. This scenario would force the shutting down of 500,000, or about 80 percent, of our oil wells, and 200,000, or about 75 percent, of our Nation's gas wells. We would lose 13 percent of our oil reserves and 9 percent of our gas reserves. Oil production would plummet 20 percent in the first year and tens of thousands would be lost.

Since others have proposed that the exemptions from subtitle C regulation be repealed for associated wastes, we also ran that case on the Gruy model using some very conservative assumptions. If only a small portion of the associated waste tested hazardous, 78 percent of the Nation's oil wells and 50 percent of gas wells would be shut down, with significant reserve and production losses.

It is clear that additional Federal legislation of oil and gas wastes would reduce domestic production substantially, would diminish reserves, and would place our country increasingly at the mercy of OPEC imports. It is equally clear that there is no need for additional Federal regulation of these wastes.

The current mix of State and Federal regulation is uniquely suited to the effective management of production wastes. The system has been tuned and developed over time, it works well, it responds to reality, it is fully capable of meeting newly identified needs. To apply prescriptive national standards or to regulate production wastes as hazardous wastes under RCRA would impose an enormous, unnecessary cost burden on the industry without discernible improvement in the environment or in protection of human health. It would overwhelm the capacity of existing RCRA facilities. It presumes that EPA could divert already scarce resources and personnel from the urgent business of dealing with toxic waste to managing high volume, low toxicity oil and gas production wastes that are already being managed in a safe and responsible manner under State and Federal regulations.

I would suggest, Mr. Chairman, that the real issue to be considered by Congress is this: What regulatory structure best provides for environmentally and economically sound control of oil and gas exploration and production wastes? In reaching that decision, consider that State regulation of oil and gas resources and wastes has existed since the 1930's, as Commissioner Krueger indicated, and takes into account a wide range of geologic and geographic conditions that exist at over a million exploration and production sites nationwide.

Three years ago, the EPA extensively studied the production waste issue and concluded that existing State and Federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. The producing States and EPA are working to close regulatory gaps and measure State programs against a model developed by the Interstate Oil and Gas Compact Commission. The industry supports this effort and is participating fully.

The issue here is not subtitle C or subtitle D of RCRA. Neither was designed to deal with the unique structure of the oil and gas production industry. The real issue is the effective management of E&P wastes in a manner that protects the human health and environment and is consistent with the need to assure adequate production of domestic oil and gas. Oil and gas waste management has been studied thoroughly by the EPA and other parties. The consistent conclusion is that these wastes, when properly managed, present minimal threat to health and the environment, do not warrant classification as hazardous under RCRA. A rigid subtitle C approach is not an appropriate statutory framework in which to address operations common to the oil and gas industry. The current system works; we support it.

I would be glad to answer any questions you may have at the appropriate time.

Senator BAUCUS. Thank you, Mr. Bell. You beat your five minutes.

Mr. Shuey.

**STATEMENT OF CHRIS SHUEY, DIRECTOR, COMMUNITY WATER QUALITY PROGRAM, SOUTHWEST RESEARCH AND INFORMATION CENTER, ON BEHALF OF THE NATIONAL CITIZENS' NETWORK ON OIL AND GAS WASTES, ALBUQUERQUE, NEW MEXICO**

Mr. SHUEY. Thank you, Mr. Chairman. I've been at Southwest Research and Information Center since 1981, and I have been involved in oil and gas waste issues in the Southwest and nationally since about 1982. Since February of 1989, I have been a participant in the Interstate Oil and Gas Compact Commission's Council on Regulatory Needs as an advisor and in the current State review process.

I am speaking today on behalf of Southwest Research and Information Center and the National Citizens' Network on Oil and Gas Wastes. The Network's 125 members and supporting groups and individuals, who are people and communities in 24 States directly affected by the impacts associated with the improper management and control of exploration and production wastes, urge this committee to include stringent requirements for the treatment, storage, and disposal of E&P wastes in any RCRA reauthorization bill that you might develop.

Our concerns and proposals for elements of a Federal oil and gas waste program were contained in my written statement, and I would request that that be entered into the record of this proceeding.

In the short time I have today, I would like to discuss what I would call three myths about this issue: one, that the wastes are benign, two, that they have been and are being managed and controlled properly, and three, that the IOGCC State review process is sufficient to supplant the need for a Federal E&P waste program.

First, oil field wastes are not benign. Produced waters almost always contain high levels of benzene, a proven human carcinogen, very often contain elevated concentrations of radium 226, another known human carcinogen. Mr. Chairman, produced water and the associated wastes, which are the low volume, high toxicity oil field wastes—like tank bottoms—and, in some cases, oil-base drilling muds, all exhibit characteristics of hazardous waste, contain many hazardous constituents, and if not for the statutory exemption, would already be regulated as hazardous waste. It simply makes no legal or environmental sense to me that a tank bottom or separator sludge on an oil lease is not hazardous and that very same or similar material at a refinery is hazardous.

Second, E&P waste management practices still need substantial improvement. The damages documented in the report to Congress largely still exist. There has been very little corrective action, especially over large areas of pollution in the oil fields. For example, in my State, there are more than 130 private domestic wells in the southeast part of New Mexico that are contaminated with brines and hydrocarbons that are there, in large part, because of past and current oil field waste disposal practices. There are an estimated 1,000 abandoned reserve pits waiting closure in the Kenai area of southern Alaska.

Third, the IOGCC process I don't believe is sufficient to supplant the need for a Federal program, and there are at least four rea-

sons. First, the criteria upon which the reviews are based do not address segregation of associated wastes from the produced water and the drilling fluids, do not address corrective action of permitted E&P waste sites, do not address abandoned waste sites, and do not address radioactive oil field wastes. Mandatory ground water and pit lining is not recommended in cases where an operator has not demonstrated that site characteristics achieve the same level of protection.

The criteria really were never intended to be the sole basis of any Federal regulatory program and the guidance document says so. The reviews are less than one week long—at least the first one we did was—and do not include site visits or detailed inspection of records. The reviews are voluntary, and the States volunteer to implement the recommendations that are made as a result of the reviews. Peer pressure is the only tool that IOGCC has to force the States to improve their programs.

We need the force of Federal law to push the States to a higher level of protection, one based on protection of human health and the environment. We need Federal sanction for permit fees so that the States can address the critical understaffing and underfunding of their E&P waste programs. Ohio, for example, just laid off about half of its oil and gas well inspectors and 40 percent of its Division of Oil and Gas staff. We desperately need Federal requirements to address the serious problem of radioactive oil field wastes, such as drilling pipes which have been "recycled" as fencing and playground equipment in schools in Mississippi, Louisiana, and Alaska. Yes, these materials occur naturally but being natural does not mean they are benign, especially when human intervention causes radionuclides like radium 226 to be concentrated in the wastes.

In my written statement, we have suggested minimum components of a Federal program and we suggest that these components are reasonable and would establish Federal law for oilfield waste management practices. I would like to close by citing a couple of points out of the American Petroleum Institute's E&P waste guidance document. "Non-exempt and potentially hazardous drilling wastes should not be placed in reserve pits. Drilling personnel should gather these wastes and store them in labelled leak-proof containers." We agree with that. "Produced water pits have been used in lieu of tankage. Produced water pits should be lined and only operated as a substitute for process vessels." We would agree with that, too, Mr. Chairman.

Thank you. I would be happy to answer any questions.

Senator BAUCUS. Thank you very much, Mr. Shuey.

Mr. Dowd.

**STATEMENT OF W. TIMOTHY DOWD, EXECUTIVE DIRECTOR,  
INTERSTATE OIL AND GAS COMPACT COMMISSION, OKLAHOMA  
CITY, OKLAHOMA**

Mr. Dowd. Thank you, Mr. Chairman. I am Tim Dowd. I am here to present the position of the Interstate Oil and Gas Compact Commission, IOGCC. Since the previous three witnesses have all cited our work, I am beginning to have some feeling of importance which

I didn't have when I came into the room, although I note that we haven't achieved a consensus yet on our efficacy.

The statement which I am submitting for the record is the statement of the IOGCC and its present Chairman, Governor Norman Bangerter of Utah. It also reflects the position contained in correspondence with this committee of Governor Bangerter, Governor Sullivan of Wyoming, and Governor Sinner of North Dakota. Attached to the statement are the resolutions or policy positions of the IOGCC adopted over the last five or six years with reference to these wastes.

It is the States' position, in short, that there is not demonstrated need for Federal intervention into the waste regulations. As Commissioner Krueger said, the States have been regulating oil and gas wastes for many decades—Texas, since 1919, most of the other States a similar period of time. The States, like the Congress, have been increasingly aware of environmental concerns in the past 30 years, and the programs of the States have been continuously upgraded and I anticipate will continue to be upgraded.

The EPA's report to Congress and the regulatory determination two years ago found no necessity to declare these wastes "hazardous". Nothing has happened since to change that decision. There are approximately 800,000 oil, gas, and related wells in the United States. There is no evidence that these wells, located for the most part side-by-side with agricultural operations, have caused significant environmental damage either to the crops and livestock that flourish around the well locations or to the farm families that live nearby.

The IOGCC and its member States support the exemption of E&P wastes from RCRA subtitle C classification. The States support the EPA regulatory determination in its definition and lists of exempt and non-exempt wastes. We see no reason for the Congress to impose burdensome and duplicate regulations on top of those that are presently working in the States. And we fear that such regulation not only would signal the demise of the independent operators indicated, but cause him, in fact, to abandon his locations and leave that burden of plugging them to the Governments—Federal and State. Thank you.

Senator BAUCUS. Thank you, Mr. Dowd.

Ms. Bode.

#### **STATEMENT OF DENISE A. BODE, PRESIDENT, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, WASHINGTON, DC**

Ms. BODE. Thank you, Mr. Chairman. I am Denise Bode, President of the Independent Petroleum Association of America. I welcome the opportunity to testify today on behalf of IPAA and 44 co-operating State and regional associations that represent the approximately 10,000 domestic oil and natural gas producers in 33 States.

As previously noted, the domestic petroleum industry, large and small, is united in its concern about the treatment of oil and gas wastes in the context of RCRA reauthorization. IPAA agrees with the testimony presented at this hearing by the American Petroleum Institute and Mid-Continent Oil and Gas. We believe S. 976

made the right decision for managing wastes by excluding oil and gas wastes from the bill's new industrial waste standard. Others are suggesting a whole new RCRA regime is necessary.

Today, I want to share a perspective on this issue from the smaller oil and gas producers. First, a word about who we are and what we do might be helpful. Independent producers are small businessmen and women who share the concerns of other small businesses—rising health care costs, the high cost of capital, taxes and increasing costs of regulatory compliance. A recent IPAA membership survey clearly showed that today's independent producers are well educated, established, and experienced business people who share national economic and environmental policy concerns with the rest of the American public. Of course, what makes independents unique from other small businesses are the commodities we produce—oil and natural gas—and the low volumes at which we produce our product. The majority of our members have 10 employees or less, and the lion's share of their production comes from stripper wells. Notwithstanding when you add up the total contributions that independents make to energy security, the numbers are significant. We drill 85 percent of the wells in this country and produce 60 percent of the natural gas and 30 percent of the Nation's crude oil.

When we look at the prospect of additional RCRA regulation of oil and natural gas industry, the level of alarm among independents is unquestionably greater than that of many large multinational companies. For many of them, it is a question of where they will drill and produce oil and natural gas. For us, it is a question of whether we can get to the ground to drill and produce at all.

We want to make four relevant points today on any proposed change in treatment of oil and gas exploration and production waste. First, oil and gas wastes are effectively and efficiently regulated under current State and Federal requirements. Second, additional Federal regulation is not needed. Third, additional Federal RCRA requirements would weaken the domestic oil and natural gas industry with little, if any, environmental benefit. And finally, and from my perspective the most important, the most severe economic consequences of a Federal RCRA-based regime will fall on domestic independent producers.

Being good environmental stewards is a challenge for any small business, especially for independents because there are many environmental requirements specific to our industry, but it is a challenge we are determined to meet. We, too, are committed to doing it right the first time. That's why IPAA hired consultants to compile a comprehensive listing of environmental requirements. Let's take a look at what we've got. I think this is interesting for those who think our industry is under-regulated.

First, We received this compilation of Federal environmental regulations. These are only the existing environmental regulations—not worker safety, zoning, royalty management, or any other regulatory regime—just environmental compliance requirements specific to oil and gas producers. On top of that, we needed and developed compilation of State environmental regulations for oil and gas producers. Many independents work in more than one State. Here,



for example, are the environmental requirements for the State of Texas and the State of Louisiana.

Once we had all these requirements compiled in reference volumes, we produced a 30-hour video tape training program for independents to demonstrate real world methods and practices that ensure compliance for these environmental regulations. Those are contained right here in front of me. I brought these materials to show you as graphically as I can that oil and gas drilling and production wastes are currently extensively regulated and that the industry is actively working to ensure compliance.

Now you are right to ask, "Do these regulations protect human health and the environment?" After an extensive two-year nationwide study of that question, the EPA produced its report to Congress which says unequivocally Yes. Here is the report, which you can see is quite voluminous, for those who think that EPA missed something.

In addition, the IOGCC study, which has been discussed, is here.

These materials are the current laws and regulations, a scientific study of and conclusion about our wastes, and the dynamic process of on-going improvements in State-based programs that we offer as evidence to support our position that further RCRA regulation is not required. Adding an unnecessary and unavoidably costly Federal regulatory regime under RCRA would mean more oil imported by tanker, less domestic clean-burning natural gas, and the diversion of scarce resources away from real toxic waste problems to a very low toxicity, high volume waste that EPA says after extensive study are already being managed in a safe manner by State and Federal regulations. Is that good environmental policy? Not from our perspective.

Thank you, Mr. Chairman. I would be willing to answer any questions.

Senator BAUCUS. Thank you, Ms. Bode.

Next, Mr. Fontenot.

Mr. FONTENOT. Thank you. If, before my time starts, I could just tell you that Maureen O'Neill, who is the Assistant Secretary of the Louisiana Department of Environmental Quality, was scheduled to speak and she had an illness in the family, so yesterday around noon I found out I was going to be coming up here. But if you need her back, she will be glad to come.

Senator BAUCUS. OK.

**STATEMENT OF WILLIAM FONTENOT, ENVIRONMENTAL SPECIALIST, LOUISIANA DEPARTMENT OF JUSTICE; ON BEHALF OF WILLIAM J. GUSTE, JR., ATTORNEY GENERAL, STATE OF LOUISIANA, BATON ROUGE, LOUISIANA**

Mr. FONTENOT. Thank you, Mr. Chairman. My name is William A. Fontenot. I am Environmental Specialist with the Louisiana Department of Justice and I am here today speaking on behalf of Attorney General William J. Guste, Jr., who has been the Attorney General of Louisiana for twenty years.

Attorney General Guste feels that existing State programs, laws, and regulations covering oil and gas waste have improved in recent years. But existing laws and programs are far from adequate to

control oil field wastes. Disposal practices are still allowed which, according to EPA, can and will cause serious damage to human health and the environment. These current disposal practices apply to both hazardous and non-hazardous oil field wastes. Without minimum Federal standards, regulations, and oversight, the various State regulatory agencies will never adequately control the billions of gallons of hazardous and non-hazardous oil field waste that are generated in this country every year.

Louisiana is the first and only State to regulate radioactive material which is present in salt water and pipe scale associated with oil and gas production. Industry in Louisiana has been asked to sample and report on sites which are contaminated with radioactive material. So far, almost 1,000 sites have been identified in Louisiana. Recent statements by representatives of the Louisiana Department of Environmental Quality indicate that they feel as many as 10,000 sites in Louisiana may be contaminated with this naturally occurring radioactive waste. Without adequate Federal laws, dirt and other material which is contaminated with hazardous or radioactive waste from oil and gas operations can easily be shipped across State boundaries and handled as solid or fill dirt. Clearly, present law is not adequate to protect human health and the environment.

I have a few slides I would like to show you which I think will help a little bit. I would like to point out that the conservation agencies in the various States were started because after a large find in the State of Texas, Oklahoma and Texas went wild in the early 1900's and Federal troops had to be brought in to control oil exploration. So much oil was being produced that the price of oil dropped to 5 cents a barrel. The conservation agencies were then set up to control the flow of oil, to limit production to keep the price up.

This is a fairly typical drilling site. This is a producing well with oil. The white material is salt on the ground. It runs off into the local area. Oil is a known human carcinogen; just oil itself. One of the reasons is because it contains things like benzine.

This is a natural gas pipeline. It says, "Warning. Benzine Hazard."

Here is somebody checking for radiation at pipe scaling. There is a lot of it and most of it has not been identified yet.

This is a workover rig. Notice the bags at the bottom. The next shot is of these same bags that were left out at a supply place and had to be hauled off as hazardous waste. If this were at a production site, this would be non-hazardous oil field waste.

Senator BAUCUS. What's in the bags?

Mr. FONTENOT. There are a lot of different—there is some chromate and sulphate—

Senator BAUCUS. What are the bags?

Mr. FONTENOT. This is what are called "drilling muds".

Senator BAUCUS. Muds. OK.

Mr. FONTENOT. It is a combination of material—These things come onsite; they help in the production of the oil either as lubricants or in helping the stability of the drill hole. I am sure that one of the people from the industry could give you a better feel for what this is.

These are some waste oily materials and solvents from a drill site that is located a quarter of a mile from State university in Louisiana. It is now listed as a hazardous waste site. If they had not left this material on site, it would have been hauled off as non-hazardous oil field waste but the company had gone bankrupt.

This is a fairly typical oil salt water pit. Here is a large pit with extensive salt water damage around it. It is an unlined pit. It has killed a lot of vegetation. This is in coastal wetlands.

Here is a site where cattle have been going up and drinking water out of a pit full of oil. They are very tolerant of oily and salty water and can easily become contaminated.

This is an enhanga that died in a pit because they cannot distinguish between oil and water.

A controlled oil spill. Here's an oil site that was cleaned up. This is after the cleanup and it was reported completely clean.

This is another site that was clean. This is an old pit where salt and oil is getting out on the ground.

This is a sugar cane field on the left next to an old oil pit that was cleaned up. This land will not produce sugar cane for at least another 20 or 30 years, if then.

This is another field. The tank at the top is part of an oil production operation. This site has been closed down but the landowner just told me last week that the company told him that this tank cannot be removed because it has got radioactive material in it. This is his sugar cane field and the area where there is no sugar cane growing covers about 15 or 20 acres. There are literally thousands of acres of land in Louisiana where crops can no longer be grown because of salt water damage.

Thank you.

Senator BAUCUS. Thank you very much, Mr. Fontenot.

I think the first question really is what's the damage, and Mr. Fontenot and Mr. Shuey have indicated that they think there is significant human health and environmental damage. I would like Mr. Krueger, Mr. Dowd, Mr. Bell, Ms. Bode to respond to some of the points that Mr. Fontenot and Mr. Shuey have made. Those slides are pretty graphic. It seems to me that there is a problem.

Mr. FONTENOT. Mr. Chairman, if I could just say—

Senator BAUCUS. Yes, Mr. Fontenot?

Mr. FONTENOT. Again, I grabbed these slides as I was running out of my house last night. This was not out of a prepared presentation; I just grabbed a pack of slides and put these together. If you'd like to see something more graphic, I would be glad to come back.

Senator BAUCUS. So you left your most graphic at home?

Mr. FONTENOT. Well, I don't know. This is just the tip of the iceberg.

Senator BAUCUS. OK. Well, you heard it. He says it is the tip of the iceberg.

Mr. FONTENOT. And I took all of these myself, so these are not some PR firm that put these together.

Senator BAUCUS. OK. Thank you.

Mr. Krueger.

Mr. KRUEGER. I guess if that is the tip of the iceberg, I am glad we don't have all those icebergs in Texas. We certainly have some

problems, but I would point out first of all that we are taking corrective action in a number of areas. As I indicated, the State legislature has appropriated over \$10 million to us this year in order to clean up oil field wastes.

As for the segregation of the waste streams, which was mentioned by Mr. Shuey, that's part of our efforts right now, to develop regulations on exactly that point.

The States are also moving, as I think Louisiana is, to undertake the question of how to deal with "NORM"—naturally occurring radioactive materials.

So all of these things are things that we have done without requiring any Federal legislation to direct us to that. We are there; we are concerned for our people; we are concerned for their health and for our environment.

As for the question of benzene, which was mentioned in particular, my understanding—

Senator BAUCUS. Could you give me some examples again more specifically of what Texas has done. I take it from your comments that you agree that there has been, or may still be, a problem in Texas.

Mr. KRUEGER. I think that there has been. But you can't have 250,000 wells and have no problem. You can't have 250,000 people producing waste in a city and not have some problem as a result of that. Of course, we do have problems. We are working on them.

What I would suggest is even if we consider such a thing, for example, as benzene, it is my understanding that the benzene occurs naturally in the oil as it comes from the ground. So when it is returned, if it's returned underground, it is returned, in fact, to the place from which it came. I think, frankly, that the risk is probably a good deal greater when you put in gasoline at the pump, while you're putting it in, than it is just from the quantities of benzene that are likely to occur in the process of finding crude oil, because the intensity is not as great. Most of these things are high in volume but they are low in toxicity. For the most part, the problems that people have with them are in a one, two, to three week periods while the exploration is going on. It is not a day-by-day, continuous sort of compounding.

Senator BAUCUS. What about the environmental consequences?

Mr. KRUEGER. As I've indicated, I think the vast majority of the wastes are reinserted underground. The kinds of pictures that are shown there would by-and-large be in violation of our regulations and we would be taking action, in some cases with fines that we can issue of up to \$10,000 a day for people who violate our pollution regulations. Every week the Railroad Commission meets and every week we are assessing fines and penalties because of people who have violated our pollution laws.

Senator BAUCUS. So you are saying that under current Texas law many of those practices would not be allowed and that Texas would bring enforceable civil actions, maybe in some cases criminal, against anyone who may indulge in such practices.

Mr. KRUEGER. Yes, that's right. The initial picture that was shown, for example, of the kind of wastes that were leaking off from the well site, those would be in violation of our regulations and the person would be subject to fines for that. Now, not every

speeder is caught every time he goes down the highway—of which some of us are occasionally grateful—and not every pollution violation is always caught. But we, any time that they are reported, take action. And I can guarantee you that every Monday at the Railroad Commission we are assessing thousands of dollars worth of fines.

Senator BAUCUS. How many enforcement actions has Texas brought against gas operators for violations of environmental laws as they applied to—I guess basically to rigs. Address this kind of point.

Mr. KRUEGER. I may have to have that inserted for the record; I don't have it in my head. Last year we assessed \$876,400 worth of penalties against operators for various violations of our pollution regulations.

Senator BAUCUS. I don't mean to go into too much detail here, but roughly how many separate violations would that include? How many operators and violations, roughly? You can supply it for the record.

Mr. KRUEGER. I'll supply it for the record.

[The following information was subsequently submitted:]

The Railroad Commission of Texas continuously monitors oil and gas exploration and production operations and vigorously enforces inspection, a review of an operator's reports on monitoring and testing activities, a report from another agency, or a complaint from a citizen or another operator in the area. The Commission also uses a sophisticated automatic data processing system to track compliance with its rules.

The Railroad Commission's Oil and Gas Division employs more than 100 field inspectors at 10 district offices across the State. These inspectors are trained and experienced in the Commission's surveillance and enforcement procedures. They have the authority to enter any oil and gas property to inspect operations and examine records.

All violations are actively pursued until compliance is achieved. The various enforcement mechanisms the Railroad Commission uses include: sending an enforcement letter directing the operator to correct the violation by a certain date; issuing a pipeline severance, which prevents the operator from moving oil off the lease; physically placing a seal on a well to prevent use; and assessing administrative penalties of up to \$10,000 per day. The Commission selects the appropriate enforcement mechanism to address a particular violation based on various factors, such as the severity and duration of the violation and the compliance history and culpability of the operator. Most violations are quickly corrected after the Commission notifies the operator of the problem.

The following enforcement statistics for calendar year 1990 from the Railroad Commission's Field Operations and Legal Enforcement Sections illustrate the level of the Commission's efforts to enforce its environmental rules: Inspections—111,721; Violations—35,849; Pipeline Severances \*—1,655; Referrals for Penalty Action—714; Administrative Penalties: Orders \*—220, Amount Assessed—\$876,400

\* A single pipeline severance or administrative penalty order may cover multiple violations.

Senator BAUCUS. And that's over what period of time?

Mr. KRUEGER. That was last year. Two out of three of the Commissioners are new and I think that there is perhaps a stronger degree of vigor going on this year than in times past.

Senator BAUCUS. OK.

Mr. Dowd, your reaction to those slides and statements of Mr. Shuey and Mr. Fontenot.

Mr. Dowd. Well, among other things, Senator, I don't believe any of us have the time, nor would we stay awake, to watch 799,000 clean sites. If you have 800,000, you're going to have some, whether it is a federally-mandated program or a State-supervised program.

It occurs to me, as the Commissioner has said, that what you see are violations in most, if not all, of the States, and most, if not all, of the States have and continually enforce those regulations.

Senator BAUCUS. What evidence do you have of that?

Mr. DOWD. I would be happy to attempt to supply, if given the time, the number of citations, if you will.

Senator BAUCUS. If you would, please.

Which States, in your judgment, are more aggressive in dealing with these problems? Which State has the best program, in your view? I guess the second question is whether States are following or adopting your guidelines?

Mr. DOWD. I am not going to answer your first question for a variety of reasons; one of them is that we have only commenced our State review process and so we have not generally measured the States against the criteria established in the study. We are now in the process of doing that.

The second one is a more difficult problem. There are different methods used, even within the State and, certainly, from State to State to enforce rules. One State I know of, if you find a loose nut on a wellhead which is creating a leak, you write a citation. In another State, the inspector simply gets his pliers out of his truck and tightens the nut and writes them a citation. So the numbers do not reflect the level of enforcement.

Senator BAUCUS. OK.

Mr. Bell.

Mr. BELL. Mr. Chairman, it is hard to respond specifically to Mr. Fontenot's slides because I don't know exactly where or when. But perhaps a point of reference—

Senator BAUCUS. Let's ask him. How recently were those photographs taken?

Mr. FONTENOT. Some of them were taken last week. I have been to all of those sites since I took the photographs and only I think two of them are marginally different. One of the sites was proposing to be a commercial disposal site—the one where the oil and salt water were coming up out of the ground—and they were fined \$5,000 as a result of my going out and taking the photographs, but they were not fined until I went out and the result of local citizens' complaints. The agency had approved their clean up and said it was done right because the State agency, which is the Office of Conservation, has no money to determine whether or not the oil companies are actually telling them what's really out there.

Mr. BELL. My point was not whether they were valid or not; my point was I didn't know what sites they were. Perhaps, more specifically, we might address the EPA study of so-called damage cases that were done several years ago, which were reviewed fairly intensively by quite a few parties. I believe it is pretty well in the record—and we can re-establish that for you, if you'd like—that almost all of those so-called damage cases were, in effect, non-compliance with existing regulation, or would be under existing rules today. We believe that is the case. There is no doubt that violations do occur, as Commissioner Krueger has also noted. The question perhaps is not one of different regulation, but different enforcement.

Senator BAUCUS. So, if I understand you correctly, you're saying it is more a matter of enforcement than it is of regulations and standards.

Mr. BELL. Certainly regulations, no matter how adequate they may be or how well conceived, are not going to work unless they are appropriately enforced in the field and compliance is required. Now, whether it is Federal or State regulation, I believe that would be the case.

Senator BAUCUS. OK. But are you also saying that you do agree with Mr. Fontenot that there are significant human health and environmental problems?

Mr. BELL. Not necessarily, although each case would have to stand on its own as to where it was and what it did in fact affect.

Senator BAUCUS. OK. Just your gut reaction looking at those slides, those specific sites, based on your knowledge of the industry and what you saw.

Mr. BELL. Well, if you look at the case of salt water damage in a sugar cane field, yes, if I'm growing sugar cane, I would feel it was damaged and I think I would take action to recover on that basis.

Senator BAUCUS. Ms. Bode.

Ms. BODE. Well, frankly, I looked at those slides and I was appalled, I really was. I think independent producers are appalled, as anyone is and probably more so, because it makes all of us who are trying to be good managers look bad. I think we're really making a committed effort to try to clean up things that have happened in the past and work with the State and the Federal Government, which both have regulatory authority over these type of sites.

My sense of this is that, at least in my experience after having worked in the Governor's Office in the State of Oklahoma for a period of time, these things tend to be a violation of law and they need to be enforced and aggressively enforced. My sense of things, after having talked—I've been around travelling for the last six months and meeting with a lot of State officials and a lot of the State Government folks, both the Texas Railroad Commission, the Oklahoma Corporation Commission—and there is a real strong commitment by these commissioners and by the State Governors, who are elected officials, because they have constituents that are very environmentally concerned and they want them to aggressively regulate what is already in the law.

I think that you're going to really see, and I think you have seen, as Tim pointed out, a lot of significant improvement and changes in the way we do things. And I think as far as going forward, you see an intense commitment by the industry, both small and large. I think this is demonstrated by the fact that we're willing to go out and produce video tapes to teach our people how to be good environmental stewards, and the fact that we are working closely together with State Government. I think you see a real strong commitment on behalf of the industry to comply. I think the States are working hard.

Mr. KRUEGER. Mr. Chairman, if I might just add two points to what I mentioned earlier. One is that in addition to the \$876,400 of penalties imposed which I mentioned, we have another enforcement action which is even more severe. We have the authority to cut off their production in their pipelines; to sever them, basically,

from their income stream by preventing them from selling their oil and gas. That is very often used as a threat and, in fact, is sometimes exercised in order to prevent people from violating our regulations. We simply cut them off and they cannot sell their oil or gas, and that is like cutting off somebody's salary.

Senator BAUCUS. Could you also, if you could, supply for the record the instances when that has brought that specific enforcement action and for what reasons.

Mr. KRUEGER. We'd be glad to do that.

[The following information was subsequently submitted:]

A pipeline severance is a highly effective mechanism for enforcing Railroad Commission rules on an oil lease, because it imposes a financial hardship on the operator. The Commission issues a severance by directing the person who gathers oil off the lease to disconnect the pipeline or other carrier connection to the lease. No oil may be moved off the lease while the severance is in effect, and the severance may not be lifted until compliance has been verified.

Any violation on an oil lease may prompt a pipeline severance. Typically, the Railroad Commission issues a pipeline severance if an operator fails to comply with an enforcement letter directing the operator to correct a violation by a certain date. A pipeline severance may be issued immediately in an emergency situation.

During calendar year 1990, the Railroad Commission issued 1970 severances for violations of its environmental rules. The district offices initiated 1655 of these severances for violations discovered through inspection activities. In addition, the Underground Injection Control Section issued 315 severances for violations of monitoring and testing requirements of Commission rules for injection wells.

Mr. KRUEGER. The other point that I might add is that in our experience, the problems, when they occur—and certainly as in any other enforcement action, one doesn't have an enforcement staff without people breaking one's regulations—I would say, frankly, that the problems most often occur from very marginal operators. The major companies, whether because of the Valdez oil spill or whatever, are concerned enough about their public image that they are not very likely to engage in gross polluting practices simply because they are too concerned about their image.

On the other hand, there are marginal operators or people who have gone out of business. We have a very substantial well-plugging program in which some people have simply walked away from their responsibilities and we in the State now have to respond to that by plugging their abandoned wells because their operators are bankrupt or their operations have been abandoned. Like some other States, we have a number of people who have gone broke. So we are addressing those needs by plugging abandoned wells with State funds.

Senator BAUCUS. Mr. Shuey made an interesting point that sludge that has hazardous characteristics at a refinery is regulated under subtitle C; whereas, tank bottom sludge in the field, which has the same hazardous characteristics, is not.

Mr. KRUEGER. That's true.

Senator BAUCUS. I am curious if there is any public policy reason for the different treatment?

Mr. KRUEGER. I would guess that the different treatment results from the fact that the volumes involved in refineries, where you have daily activities and the constant mounting up of these wastes, are very much greater and, therefore, constitute a very substantially larger danger than volumes that are likely to occur in tank bot-



toms which are out in the field, where you will have two or three tank bottoms, perhaps, at a particular well site.

You also have the fact that there are, in Texas alone, as we indicated, some 250,000 wells, and you've got a very large number of production sites; therefore, these wastes are distributed over many different locations and therefore their intensity is not very great at those production sites, whereas the intensity and volumes would be much larger at the refinery sites.

I might add that the Railroad Commission does not regulate refineries. Those are regulated by the Texas Water Commission and "NORM" wastes are under our Department of Health. The State is now developing regulations to deal with NORM regulations.

Senator BAUCUS. Mr. Shuey, do you have a reaction to that; or Mr. Fontenot?

Mr. FONTENOT. Yes, let me give a real quick response. These slides include fields that are owned and in part operated by Shell, Mobil, and Chevron. I would be glad to show you slides from every major operator that is operating in the State of Louisiana that has serious problems. And I'll be glad to spend a little time and go over to Texas or Oklahoma or anywhere else and bring back some slides for you.

I worked for three years on that EPA report. They had very, very tight criteria. One of these sites is included in that report. It is Caffrey Salt Water Disposal No. 1, and that's the one where the sugar cane field is mostly damaged. A high school student did a science fair project on it and for two years there has been salt water sampling in those fields. That's why that site got on the report. EPA was not allowed—the consultants were not allowed to go out and, if they observed a site that had several square miles of obvious damage from waste being dumped on the ground, they could not report it if it had not had either a conclusive litigation, or an official report that had gone through some sort of enforcement action, or some other compliance data. The one with the cane field was an exception.

Louisiana and Alaska had the most damaged cases in that report, and it was the result of two State field agents who went out—very dedicated men—who went out, many times at the risk of their jobs, and did very extensive reports. There were almost no damage cases in Texas because the agency did not provide information to the consultants for EPA so that they could put their report together. Again, one field agent, who covers maybe six or seven parishes—which would be counties—did most of the damage cases in that report.

It is a deficient report and, if you read the report carefully, you see that it says we've got problems out there and somebody really needs to look at it. I think it is real serious and I think it has been totally underestimated and understated.

[Shell Oil Co. submitted the following letter for inclusion in the record:]

SHELL OIL COMPANY  
WASHINGTON, DC.  
September 30, 1991

Committee on Environment and Public Works  
United States Senate  
Washington, DC.

GENTLEMEN:

At the Senate Environment and Public Works Committee hearing on September 11, 1991, regarding the Exploration and Production Wastes Management under RCRA, Mr. Fontenot from the Louisiana Attorney General's Office showed slides of oil field production locations, one of which he stated was a Shell Oil Company facility. A clarification is appropriate.

Following a discussion with Mr. Fontenot, it was determined that he did not have a picture of a Shell facility. The picture was of a pit in the St. Gabriel field in Louisiana. Shell sold the field in 1981 and closed all pits prior to the sale using procedures which were later adopted as part of Louisiana's Rule 29B pit closure requirements. Any present pits would have been installed and operated by another company.

Thank you for making this a part of the hearing record.

Sincerely,

P. C. HOLLADAY  
WASHINGTON REPRESENTATIVE

Mr. SHUEY. Senator, if I could try to respond as quickly as possible. The statement was made regarding the damage cases being almost all violations of existing regulations. I don't know. In our State, of the three of the five so-called documented damage cases, three were not at the time violations of State regulations; they are now because problems were identified. In the fourth case, that 130 wells polluted by brines and hydrocarbons in Lea County, Eddy County, and Chaves County, New Mexico, were combined into one damage case. And in testimony I gave to the Environmental Protection Agency in March of 1988, I provided for the record another 24 sites of contamination in our State that met the requirements for the damage cases. And, again, the team of people were out there for a couple of days one time and a couple days another time.

You have got to have rules and regulations but, if you don't enforcement them, you are going to have slides like that. And we can see sites like those every day. I was down in the oil fields of south-east New Mexico two weeks ago and saw that kind of behavior going on. Sure, it is not allowed, but from statistics in the Report to Congress and other data that we can put together, it looks like the average is that there is one inspector for about every 3,000 to 3,500 oil and gas wells. You are from a western State; you know the great distances that you have to cover between lease sites, in some cases, and producing areas. That's just an outrageous number of sites for one individual to have to be responsible for. Sure, problems are going to happen because nobody is looking out for them.

This is a critical question of enforcement. I've been on our State oil and gas agency's back now for a couple of months to go after a very large producing company for a 2.3 million gallon leak of natural gas condensate and produced water from a line that could have been cathodically protected, should have been, for losses of condensate that they knew were going on for six months. There was negligence in this case. We're making them clean it up—the State is—but there has been no penalties beyond that.

Senator BAUCUS. I have one other quick question on that and then I want to turn it over to Senator Jeffords.

It sounds like there is a problem; the question is what is the solution. I would like to ask the representatives from the oil and gas industry if there is a category here, like associated waste, for example, that is more of a problem than produced water or drilling muds or whatnot, but whether associated wastes is a category—let me ask very briefly—is that the category that is the most dangerous?

Mr. SHUEY. Yes, from a toxicity standpoint.

Senator BAUCUS. I see Mr. Fontenot shaking his head.

Mr. FONTENOT. It varies. It varies a lot. It depends on what sort of environment you're dealing with.

Senator BAUCUS. Right. I understand. OK. Well, let me just address associated wastes for just a second.

Mr. FONTENOT. They would be the most long-term toxic, except for salt water.

Senator BAUCUS. Why can't associated wastes be regulated more stringently? Anybody?

Ms. BODE. Well, I think they can be regulated more stringently. I think the point we're making is not whether something should or should not be regulated, but the fact is who manages that regulation. It is so different from State to State, region to region as to—

Senator BAUCUS. OK. What if the Congress, in this legislation, were to set some tougher Federal minimum standards that States had to meet?

Ms. BODE. I think that's exactly my point—and others may want to address this—there is a tremendous difference in associated wastes varying from region to region, geographically—

Senator BAUCUS. OK. What's wrong with tougher Federal minimums that States have to meet?

Mr. FONTENOT. Attorney General Guste feels that we absolutely need it.

Senator BAUCUS. You favor that as opposed to subtitle C regulation?

Mr. FONTENOT. I am not as familiar with the intricacies of existing Federal and State law to tell you where it ought to be. But I do think we need something.

Senator BAUCUS. OK.

Mr. SHUEY. Mr. Chairman, a tank bottom in New Mexico characteristically, chemically, doesn't look very different from a tank bottom in Louisiana, Alaska, Texas, Ohio, whatever. An unlined pit still has the same potential to pollute either surface water or ground water. These are waste management practices that are ongoing. Minimum Federal standards would help provide a minimum level of performance. Site-specific considerations can be taken into account, especially for things like pit linings; that's already RCRA section 3004(o).

Senator BAUCUS. Again, back to Mr. Fontenot. Your one sentence problem with the EPA review. What's the bottom-line reason why you think that's not a sufficient study, which basically concludes that there need not be further—

Mr. FONTENOT. Because the consultants were told to limit what you look at.

Senator BAUCUS. OK. Does anybody have a reaction to that? I don't care who; whoever feels most qualified to address it.

Mr. KRUEGER. Let me just say, Mr. Chairman, in connection with what was asserted incorrectly about Texas. We did, in fact, work with the EPA and we worked very closely with them. I am not sure how the gentleman from Louisiana got that misinformation. There were seven Texas damage cases—four of them were violations of our existing regulations, two concerned discharges of produced waters into the coast, a controversial issue that we're looking into right now, and the final one concerned salt water problems in the San Angelo area. So we are, in fact, addressing those. But there were a total of seven and we worked very closely with EPA on that. We did not deny them any information whatsoever.

Senator BAUCUS. OK. Thank you very much.

I have to leave now and I'll be back very quickly. Senator Jeffords very kindly and very graciously has agreed to cover and help me out. I'll be back.

Senator JEFFORDS [assuming the chair]. Thank you very much.

It is very interesting testimony and questions and answers. Vermont is one of those areas where we don't have any energy that comes from the ground. We're not too concerned about these things. The only thing that we have as far as energy-producing is water and wood, which don't give us too many problems.

I am interested in the difference in the State and Federal approaches here. I know the IOCC has testified about the adequacy of its guidelines and the process of comparing those guidelines with current State practices. Mr. Shuey, I believe that you took part in the review in Wyoming. The IOCC staff has informed us that there is a very favorable comparability between Wyoming's rules and regulations and those of Federal guidelines. Is that accurate? Do you agree with that?

Mr. SHUEY. Well, Senator, the rules of the review team were that the results of the review, the findings and recommendations, are secret and confidential until the report is published and that won't happen for another month. So I don't know where somebody got that information.

If you are asking what do I think about the Wyoming program based upon my understanding of it through the State review process—and anybody could look at the statutory and regulatory requirements—I think that there are some major deficiencies in a number of areas. So I would not put that spin on that document until it is published and folks read it for what it is.

Senator JEFFORDS. Thank you.

Mr. DOWD. Senator.

Senator JEFFORDS. Yes, go ahead, Mr. Dowd.

Mr. DOWD. I agree perhaps for the first time today with what Mr. Shuey just said.

[Laughter.]

I am very startled to hear that some member of the staff related that and I question whether that really happened because the report is as a matter of fact so secret that I have not read it myself. It is being prepared by another staff member. I cannot tell you whether Wyoming will rank favorably or unfavorably based on the

report, which will be out in approximately a month and of course we would furnish it to the committee at that time.

Senator JEFFORDS. Well, since we have something that everybody has apparently agreed on, I'll end right here having accomplished that very difficult goal.

Anyway, thank you very much for excellent testimony. You've been very helpful to the committee. I appreciate your being here.

I'll call the next panel. Senator Baucus will be back shortly. I am filling in just for a few minutes here.

The next panel is Richard Osborne, the Chairman and CEO and President of ASARCO, Inc., on behalf of the American Mining Congress, New York; Philip M. Hocker, President of the Mineral Policy Center in Washington, D.C.; and Ken Alkema, Director of Environmental Health, Utah Department of Health, State of Utah, Salt Lake City, Utah.

Again, as is the custom, we will ask that your statements be made a part of the record and that you, as best you can, summarize within the five minute time period.

Mr. Osborne, as soon as you are seated, you may proceed.

I'm sorry. We have Mr. Don Ostler who will be substituting for Ken Alkema. Don Ostler is Director of Division of Water Quality, Utah Department of Health, State of Utah. He will be testifying on behalf of Mr. Alkema.

Mr. Osborne, go right ahead. As I said, your entire statement will be made a part of the record. If you could please summarize and try to keep it within five minutes, we would deeply appreciate it.

**STATEMENT OF RICHARD DeJ. OSBORNE, CHAIRMAN, ASARCO INCORPORATED, NEW YORK; ON BEHALF OF THE AMERICAN MINING CONGRESS, ACCOMPANIED BY EMIL ROMAGNOLI, ASARCO STAFF; ROD DWYER, AMERICAN MINING CONGRESS; AND JEFFREY SCHWARTZ, CONSULTANT TO ASARCO**

Mr. OSBORNE. Thank you, Senator. Good morning. My name is Richard Osborne. I am Chairman and Chief Executive Officer of ASARCO Incorporated, and appear today on behalf of the 350-member companies of the American Mining Congress. Accompanying me this morning are Emil Romagnoli of ASARCO staff, Rod Dwyer of the Mining Congress, and Jeffrey Schwartz, a consultant to ASARCO.

ASARCO is one of this country's principal producers of nonferrous metals and minerals. I have come to Washington personally to testify before both subcommittees of Congress because of the crucial importance of this issue to my company and to our industry. Thank you for the invitation to discuss proper regulation of mining industry wastes. With your permission, we will submit our written statement for the record and briefly summarize our testimony.

The American Mining Congress believes it is time for the Congress to clarify EPA and the States' proper roles and authorities in regulating mining and mineral processing wastes under RCRA. Specifically, the legislation should ensure protection of health and environment. This should be done in the least cost manner to mini-

mize the adverse impacts of new regulation on the industry's competitiveness in world markets.

EPA has twice determined that uniform Federal regulation of mining industry wastes as hazardous waste under RCRA subtitle C is not warranted.

The new legislation should reflect these EPA regulatory determinations, the court decision affirming EPA's mine waste determination, and the advances in State regulatory programs by providing for site-specific, waste-specific, State-based regulatory programs for mining industry wastes.

Finally, the new legislation should not endorse the Strawman II draft regulatory program.

To amplify these points, the new law should ensure protection of health and the environment but should do so in the least cost way possible. Prices for our industry's products are determined on international markets. We cannot pass regulatory costs on to consumers. Competitiveness is particularly important to consider when cost competition is critical to our industry's survival.

Secondly, the new legislation should reflect congressionally-mandated EPA studies and regulatory determinations on mining industry wastes. In two studies and two separate determinations, EPA found that regulation of mining industry wastes under uniform Federal hazardous waste regulation is not warranted. EPA specifically found that mining industry waste streams are generally high volume and low toxicity and that there is an \$800 million annual cost of applying uniform Federal hazardous waste rules under subtitle C to mining wastes, which would be excessive and unnecessary to protect health and environment.

The U.S. Court of Appeals has affirmed EPA's mine waste decision.

Point three. Subtitle D of RCRA does not presently provide an adequate legislative framework for regulating mining industry waste but it can and should be amended to do so. In keeping with EPA's studies and regulatory decisions, the new amendments should provide for site-specific, waste-specific State-based mine waste regulatory programs with appropriate guidance and back-up by EPA.

What should this program look like?

First, amendments to subtitle D should invest States with primary regulatory authority over these wastes. State primacy is essential because conditions vary from State-to-State and site-to-site, and because State-based regulatory programs for mining industry wastes are so far advanced today. For these reasons, State primacy is supported by the National Governors' Association and the Western Governors' Association.

Second, EPA should have the authority to issue performance-based guidelines, allowing States to consider the varying wastes as well as the particular environmental circumstances at each site. These guidelines should not supersede applicable Clean Air and Clean Water requirements.

Third, EPA guidelines should require that State programs include permits or standards to protect human health and environment, ground water monitoring, necessary and appropriate remedi-

al action for actual or threatened off-site releases, proper closure and post-closure care, and criteria for plan revisions.

EPA's RCRA guidelines should not use pollution prevention concepts to allow Federal Government specification of basic production processes. Nor should these Federal guidelines specify techniques, feedstocks or other materials to be used in the mining industry operations. Other means and authorities are available to protect health and the environment, so this type of material specification represents an unnecessary intrusion into the basic production processes of the industry.

Fourth, EPA should have the authority to fully, partly, or conditionally approve or disapprove State mine waste plans based on their consistency with Federal performance guidelines. EPA should have the authority to develop and enforce a site-specific Federal mine waste management plan for any State that fails to submit a plan or submits an inadequate plan. EPA should also have authority to revoke State primacy if a State fails to enforce its approved plan or permit requirements.

Finally, on point four, the new amendment should build on State programs not supersede them. For this reason and the reasons stated more fully in AMC's written testimony, we cannot support legislation that would endorse a so-called Strawman II draft regulatory program.

We encourage the subcommittee not to override EPA's studies and regulatory determinations.

Thank you very much.

Senator JEFFORDS. Thank you very much, Mr. Osborne.

Mr. HOCKER.

#### STATEMENT OF PHILIP M. HOCKER, PRESIDENT, MINERAL POLICY CENTER, WASHINGTON, DC

Mr. HOCKER. Mr. Chairman, thank you for the opportunity to testify.

I brought with me, and your staff has, a couple of photographs of specific mining waste situations; some of them are from Montana and, therefore, are less pertinent than I had hoped right now. One is an orange stream showing acid mining drainage in Montana near Cooke City from a site which was created by mining 40 or 50 years ago and is still contaminating and poisoning that creek due to failure to reclaim and manage those wastes.

Another photograph is a cyanide heap leaching site, a very small one, in the Helena National Forest in Montana. Just giving you an indication in microcosm of that new process which has led to great expansion in the gold mining industry. As an example of that, just to give you a sense of the magnitude of some of these operations, that's Newmont's operation at Gold Quarry in Nevada.

When Chairman Baucus introduced the hearing and commented on the very large volume of wastes which the mining industry generates, I think you can see some examples of how we get to those large numbers.

I am the President of the Mineral Policy Center. The Center is a small, non-profit organization which Stewart Udall chairs, dedicated to clean up of environmental problems from mining around the

country. I am speaking today on behalf of the Center, the Environmental Defense Fund, Montana Environmental Information Center, the Northern Plains Resource Council, and the Sierra Club.

We believe that the failure to regulate mining waste around the country is a major environmental problem and that it needs to be addressed through new statutory language in RCRA.

The problem is rapidly growing for several reasons. The mining industry is moving into increased mining of lower grade ores, which means that per ounce of gold or copper produced, the amount of wastes that are generated is growing decade by decade. There is nothing fundamentally wrong with that but it is inherent in the nature of geology. We are developing more efficient processes to deal with less concentrated ores so the problem is increasing.

After several years of study of this, we are convinced that other environmental control programs—such as Clean Water—are not addressing issues which are inherent in mining wastes. They are addressing some of the immediate problems, and we're very grateful for that, but to conclude from that that the hazardous waste and environmental issues related to hard rock mining are under control with current programs would be incorrect.

The States, as Mr. Osborne's testimony indicated, have stepped to some extent into this Federal vacuum. However, having looked at State programs around the country, we find States which have no reclamation statutes or programs per se in place, such as New Mexico and Arizona—coincidentally States with very large high volume mining history with the copper industry, or probably not very coincidentally—or Alaska, which has just passed a statute but which is now developing regulations which we think will vitiate the effect of that.

But beyond the question of statutory and regulatory authority is the question of enforcement. You've heard that raised with oil and gas wastes and it is a very similar issue with regard to mining. There is a general failure to impose adequate bonding requirements, inspections are inadequate around the country, and the follow through with actual enforcement action and penalties for violation is deficient. Furthermore, one alternative to agency enforcement action, that of citizen suit and citizen action, is generally not as available for mining as it needs to be. If we can't fund inspection and enforcement activities properly through State budgets—which I think is not a desirable condition, but if that's a fact of life today—then we think there needs to be much greater citizen access to the facts, to the sites, and to an opportunity to take action on their own behalf to protect their own living conditions.

We do think these problems can be solved. We think that the technology to address the issues that mining waste raises does exist. The ability to contain and to remediate these issues through technological approaches is applicable in most, although not quite all, sites. And we believe that a successful regulatory program can be put in place which will involve a cooperative effort between minimum Federal baselines and Federal support working with State programs. When we use the term "State primacy" however, we believe that primacy has to be subject to EPA review and oversight and also to review and oversight which can be triggered by petition on both a program and a site-specific basis.



However, to date, the only Federal effort in this waste arena has been a prolonged dance over whether given waste streams should be allocated into subtitles C and D of RCRA. We believe that prolonging that dance any further does not meet the goal of actually protecting the environment.

We believe that determination of hazard should be based on an analysis of the material involved, not on a generalization based on the industry which produces the waste. I think the recent EPA rulemaking regarding processing wastes indicates some of the problems which come about when you base your determination on the industry rather than on the chemistry.

As you know, Mr. Chairman, from the situation in Butte, there are major health impacts from failing to address these problems up front. The citizens of Butte, to pick one example, have epidemiological studies that indicate the cost of failing to deal with the problems before they are in place. As you said in your opening statement, the cost of curing these problems can be much greater than the cost of prevention.

We think the problems can be controlled. We think that doing that requires legislative action. And we think the appropriate forum for that is in RCRA reauthorization.

Thank you for the opportunity to testify.

Senator BAUCUS [resuming the chair]. Thank you very much, Mr. Hocker.

Next, Mr. Ostler.

**STATEMENT OF DON OSTLER, DIRECTOR, DIVISION OF WATER QUALITY, UTAH DEPARTMENT OF HEALTH, STATE OF UTAH, SALT LAKE CITY, UTAH**

Mr. OSTLER. Thank you, Mr. Chairman. On behalf of the State of Utah and the Western Governors' Mine Waste Task Force, I appreciate the opportunity to testify before this committee. As was indicated at the beginning, I am representing Ken Alkema from the State of Utah who is the Director of the Department of Environmental Quality. He has been the Chairman of the Western Governors' Mine Waste Task Force. My name is Don Ostler. I am the Director of the State of Utah Division of Water Quality and I have been serving for the past six or seven months as the acting Chairman of the Mine Waste Task Force.

It is my desire to address some of the concerns that you asked us to talk about in the correspondence regarding this hearing, also to try to present the consensus opinion of the Mine Waste Task Force. Before I do that, I would like to present briefly what we in Utah consider to be some of the key issues with regard to regulation of mining waste.

First, I think that States have recognized for a long time that it is necessary to regulate mining wastes and that mine waste management issues are important from a State's standpoint. Many States have developed significant programs to regulate air, water, and soil contamination. A lot has been done. States have gained a lot of experience—they really have the bulk of the experience—in regulating mining waste. They have had the opportunity to see the successes and also to see the failures and to build on it. States have

the experience of regulating the various types of wastes from cyanide leaching to phosphate mining from Florida to California. We think that this experience needs to be incorporated very heavily in the design of any Federal mine waste program and regulations.

Second, although much has been done by the States, we believe in Utah that there is still a need for a properly designed and implemented Federal presence in the regulation of mining waste. Two primary reasons I would like to suggest are that minimum national performance standards properly designed with flexibility need to be suggested and provided by the Federal Government; and, second, that the credibility of State programs needs to be reinforced with an adequately designed Federal presence which includes a proper method of oversight, which I would like to describe.

We do not believe that with the current interest of the public in waste management issues that credibility can be maintained in any other way. We also think that continuation with the current approach with various programs touching a piece of mine waste management is inefficient and is not covering the entire base that needs to be covered, and that basically it is not a totally workable situation. We think there are other methods that could be utilized to validate adequacy of State programs and shore up and improve State programs, but we believe that in the case of mine wastes that the other methods would not work. We believe some Federal presence, properly defined, is necessary.

Third, we think that the Federal program needs to be built around existing State programs where they are adequate. Federal performance standards must be broad-based and flexible to allow States to implement what makes sense in their respective regions and States.

Fourth, we think the C approach would be unworkable and a disaster in terms of regulating mining wastes. The resources at the Federal level and the State level simply are not there to implement a C approach. The nature of the waste is not amenable to the standard C approach.

Fifth, we think that any Federal legislation needs to carefully define the State and Federal roles. It needs to design a system which will ensure excellent State programs, but it needs to design a system with a very clear State lead that does not have day-to-day Federal involvement.

Finally, some comments with regard to the Mine Waste Task Force, Mr. Chairman. The Mine Waste Task Force of the Western Governors' Association represents 18 major mining States. These States are not just western States, it includes also significant mining States from the midwest and the east. Members of the Task Force represent environmental agencies, public health agencies, and natural resource agencies so that there is a diversity of opinion in that group. We have also worked very closely with the Interstate Mining Compact Commission which represents an additional 16 mining States. I hope that the following remarks will be representative of the consensus opinion of both groups.

The Task Force has been meeting actively since 1988 and was formed under the request of Governor Bangerter from the State of Utah. The primary function was to address EPA's proposals in Strawman I and Strawman II. The Task Force has also considered

seriously the issues of inactive and abandoned mine waste. Both Task Forces are nearly ready to publish a report on policy options for regulating abandoned mine wastes and inactive mine waste, and we will make those publications available to your committee as soon as they are completed.

I would like to present very briefly what I think is the consensus opinion of the Task Force. The State programs are improving constantly. That snapshot of what existed ten years ago certainly does not represent what is occurring today. Many State programs have had significant improvements, especially in the last two or three years. So as the characterize past State performance, we need to look very carefully at what is currently happening.

With regard to the question of do we need a Federal mine waste regulation. The States are on record as supporting a Federal mine waste program properly structured under subtitle D. As State programs have increased in their comprehension and their capability to regulate environmental issues, I would be remiss to not mention that some States feel the programs have grown to a stature that need for a Federal program has greatly diminished. The gaps that were there ten years ago are not there today; the gaps are reducing constantly as we talk. The States also are not waiting for Federal legislation to improve their programs. Actions are being taken almost daily in changing regulations and adopting State laws to effect regulation of mine waste.

I would like to go on record very briefly, Mr. Chairman, to indicate—

Senator BAUCUS. I would ask you to summarize as best you can.

Mr. OSTLER. OK. I would like to go on record to indicate that the States are in favor of a State-based approach that would allow flexibility from one State to another to recognize the unique environmental circumstances and differences of those States; that the program would be a State-led program; that EPA would have a properly designed enforcement and oversight that would be carefully limited and structured; and that the State-Federal relationship be properly specified in legislation.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you very much, Mr. Ostler.

I would first like to ask each of you do each of the three of you agree that some kind of Federal regulation—without getting into the question of what kind or the degree—but some kind of Federal regulation is needed and appropriate to address mining wastes. Do each of the three of you agree with that statement?

Mr. Ostler?

Mr. OSTLER. Yes, sir.

Senator BAUCUS. Mr. Osborne, Mr. Hocker, yes, some kind. All right.

Now, let me approach the same question from the opposite direction. Do each of you agree that because of the nature of mining waste it is inappropriate to regulate these mining wastes under subtitle C?

Mr. HOCKER. Mr. Chairman, if I may.

Senator BAUCUS. Mr. Hocker.

Mr. HOCKER. Unfortunately, I covered some of this while you were attending to other business. There are some types of mining

wastes which may be inappropriate to regulate under subtitle C. There may, in fact, be types which are inappropriate for C which nonetheless constitute a substantial environmental hazard which requires Federal intervention. But, as I said in my oral statement, I think that to categorize by industrial classification a variety of materials which includes a very, very broad range of chemistry is a perilous approach. We think that there may be ways to classify categories of waste which are more sensitive to the actual environmental need. But to simply say mining waste or mining and mineral processing waste should be regulated in this category or that category we think is inappropriate.

Senator BAUCUS. All right. First of all, is there any category of waste that you think should be controlled under subtitle C?

Mr. HOCKER. Well, as your letter of invitation addressed, there has been a recent rulemaking on mineral processing wastes. We continue to believe, despite EPA's contrary conclusion, that several of those waste streams—a total of 11—should be regulated as C.

Senator BAUCUS. Any particular ones? I don't want to get too precise here.

Mr. HOCKER. The most extreme case is phospho-gypsum waste.

Senator BAUCUS. I'm sorry?

Mr. HOCKER. Phospho-gypsum. I don't know if you are familiar with the industry.

Senator BAUCUS. No, I'm not.

Mr. HOCKER. Well, the phosphate processing industry is primarily concentrated, although not exclusively, in Florida. The tailings—you would think of them as tailings in a hard rock mining context—are accumulated in stacks on basically a flat landscape. Typically, over a karst topography, that is to say a broken limestone—

Senator BAUCUS. Are there any other streams that you would also regulate under C?

Mr. HOCKER. We address those in our comments. There are ten others which we recommended be on the processing waste stream.

Senator BAUCUS. OK. Which one or two pop in your mind right now? I am trying to get a flavor of where you're going.

Mr. HOCKER. Rather than describe them by specific category—I can go through the list—but I think the key is that there are a number of these wastes which have a demonstrated history of carrying either standard characteristics of corrosivity, toxicity, or other hazards that would—

Senator BAUCUS. OK. We'll examine those materials you have submitted to us.

But let me ask you, Mr. Ostler—Mr. Osborne, too, if you'd care to chime in here on this question—what are the human health and/or environmental adverse affects of mining wastes? Often around here we talk in hypothetical, theoretical terms. Let's get this down to real people and real environmental problems; not theoretical but actual. Can any of you give me a sense of what the actual human health problems are and the actual environmental degradation might be?

Mr. Ostler.

Mr. OSTLER. Yes, Mr. Chairman. That's a broad question and is very dependent upon site-specific circumstances and the proximity

to public, the proximity to ground water, and those types of things. In some parts of Florida the distance to ground water is measured in inches; in some parts of South Dakota it is 3,500 feet deep. So it is very difficult to characterize in general.

But the contamination of ground water has been a very significant issue with regards to mining waste. The impact on drinking water supplies with heavy metals, acids, and those types of materials have been significant impacts with regard to mining waste.

Senator BAUCUS. Could you give me a little better idea? Be a little more precise. Let's first talk about human health affects at the various different stages—mining, refining, for example. Which process is going to tend to have more adverse human health and/or environmental affects than others? I know it varies a lot according to the country, the ore is not uniform, and there are a lot of factors here.

Mr. OSTLER. It varies a great deal depending upon what type of minerals are in your region. Certainly, there has been a great deal of interest among States with regard to the cyanide heap leaching process that is expanding greatly in western States for the recovery of gold. There are some incidents that have been documents nationwide where that cyanide material has not been properly contained and has affected drinking water supplies.

The States have had a great deal of interest in how that process should be regulated and in ensuring that any new Federal program include the authority to regulate heap leaching-type activities, which may not be a waste until they are finished with that operation. That would be one example, I guess.

Senator BAUCUS. OK. Thank you.

Mr. Hocker.

Mr. HOCKER. There is a long documentation—and I refer back to Butte as just one example—of people's health being personally damaged or the drinking water supplies being rendered unfit for consumption through improperly controlled mining wastes. To pick a couple of specific examples, there have been, as Don alluded, leaks recently from cyanide gold heap leaching facilities which have led to the abandonment of drinking water wells; there are sulphate plumes from copper waste dumps in the southwest which are causing contamination of ground water in an expanding area.

My organization right now is engaged in Utah in contesting a settlement—Don probably knows more about this than I do, a staff member of mine is working on it—with Kennecott Copper over the ground water contamination spreading from Kennecott's copper mining and dump leaching facility there. So, unfortunately, there is a widespread and well documented history of these problems.

Senator BAUCUS. Mr. Osborne.

Mr. OSBORNE. Could I respond to your last question as well, which raised the question as to whether we felt mine wastes could be adequately regulated under subtitle D; we believe they can. The program which we outlined would provide for increased EPA oversight and the setting of performance-based standards by EPA which we believe could enhance subtitle D sufficiently so that it would function effectively to regulate the whole mining—

Senator BAUCUS. But you're talking about enhanced subtitle D.

Mr. OSBORNE. We're talking about an enhanced. When I responded to your question about some form of additional legislation, that was the form in which I was responding to it. That is detailed in more specifics in our written testimony.

Senator BAUCUS. I've gone far over my time. Let me turn now to the Senator from Idaho, Senator Symms.

Senator SYMMS. Thank you very much, Mr. Chairman.

Gentlemen, welcome to the committee. I have been concerned about how this will affect the competitiveness of the mining industry if Congress ever does the regulations.

Mr. Osborne, could you tell me what would be the competitive effect on the domestic mining industry if you ended up having to absorb an additional \$800 million per year to comply with the Strawman II recommendations to meet RCRA's subtitle C rules? What would the competitive effect be?

Mr. OSBORNE. Thank you, Senator. If I could take a moment and describe the current competitive posture of the industry and where it has recently been. The United States mining industry has been through a gut-wrenching experience in the last six to seven years. The experience was so grim in late 1984 that a major news publication featured a black bordered cover entitled "The Death of Mining". Those of us in the industry at the time felt those pressures enormously.

Senator BAUCUS. Would that be nonferrous metals or precious? I'm sorry to interrupt. I'm curious, when you say "mining", do you mean across the board?

Mr. OSBORNE. Well, that specific reference was principally to copper, lead, and zinc; less so to precious metals, although there are those in the silver industry today who would reflect similar characteristics.

Senator BAUCUS. Thank you.

Mr. OSBORNE. Those of us who survived—and I would have to say there were many who did not; over half of the copper producers at that time shut down and went out of the business and over half of the copper mines shut down and did not reopen—but those of us who survived did so with a substantial restructuring of our organizations. We all did it differently. ASARCO slashed cost layers of management out of the organization and, at its peak, took about \$100 million of cost out of the business. Phelps Dodge did it differently by developing different kinds of mining techniques that involved leaching and solvent extraction.

The United States copper and lead industry today is competitive on a worldwide basis. The effect of that on the U.S. economy has been dramatic. As recently as 1987, the balance of payments deficit associated with the requirement of this country to import copper and lead was over \$800 million. The first six months of this year the U.S. enjoyed a balance of payments surplus of \$43 million.

Senator SYMMS. That's from copper and lead?

Mr. OSBORNE. That's from copper and lead alone. So a shift of nearly \$870 million in the U.S. balance of payments.

Senator SYMMS. Did these mining companies that you represent with AMC make \$800 million in profit?

Mr. OSBORNE. No, sir.

Senator SYMMS. But you're estimating the cost to comply with subtitle C—does that \$800 million include mining and mineral processing or just mining waste alone?

Mr. OSBORNE. The \$800 million estimate was an EPA estimate made in 1986 and unescalated to current dollars, so that number would be larger. Also, it covered only mining wastes and did not cover mineral processing wastes. So it probably understates by a substantial margin what the absolute cost would be.

The final point that I was about to make was the imposition of those kinds of additional costs would completely wipe out the efforts that we all have undergone to restructure an industry and really resuscitate an industry which almost died in this country.

Senator SYMMS. Do you have any kind of rough estimate/guess of how much in profits did the members of AMC make last year?

Mr. OSBORNE. Senator, I would be pleased to supply that information for the record. I don't have a number.

Senator SYMMS. But it is a long way from \$800 million though?

Mr. OSBORNE. No, I would assume that it would not be a long way from \$800 million. Last year was a pretty good year for some of us when we were dealing at the very peak of the metal markets.

Senator SYMMS. Let me get a little more close to home. The Coeur d'Alene Mining District in my State, as you know, has been in a severe crunch with respect to the price of silver primarily right now. What would this do to say your mine in Galena in the Coeur d'Alene District if you had to absorb part of these subtitle C rules? What will that do to that mine?

Mr. OSBORNE. ASARCO operates two mines in the Coeur d'Alene District. The Coeur mine was shut down for economic reasons on April 1st of this year, which demonstrates the pressure these properties are under. The Galena mine, at \$3.96 cents silver—which is where it was a few minutes ago—is losing money. The imposition of the kind of cost implied in subtitle C regulation of tailings for the Galena mine would surely require its closure and cause its permanent shut-down.

Senator SYMMS. And, of course, if the Galena and the Coeur are closed, those are about as low a cost to producers that are in the District; isn't that right?

Mr. OSBORNE. Yes. I would not want to speak for Lucky Friday, but I would assume that Hecla would be faced with very much the same sort of situation with respect to Lucky Friday, and Sunshine we know is under the same sort of pressures that Galena is right now.

Senator SYMMS. Mr. Ostler, how about some of the mines down in your part of the world?

Mr. OSTLER. I don't think that I can properly comment on the profits that they have made, if that's what you want to know.

Senator SYMMS. I mean if they have to absorb this cost do you anticipate more of them would close?

Mr. OSTLER. Very definitely. There are some mining operations that are on the thin edge and would definitely close rather than regulate under a subtitle C approach. I can't quantify how many.

Senator SYMMS. I see my time has expired. If I could go ahead, Mr. Chairman, and just ask one question on a little different track.

Senator BAUCUS. Go ahead.

Senator SYMMS. Currently, your mining operations are in compliance with the current Federal and State law in each respective State; is that not correct?

Mr. OSBORNE. If that question is directed to me, Senator, the answer to that is definitely "Yes". We know of no current damage or exposure to health or environment from any current mining operations that we are engaged in.

Senator SYMMS. See, I guess that's kind of what I'm getting at. Every mining operation that I've looked at—and I've looked at several of them, some acid leaching process and others—there is no public safety or health risk taking place. I guess the thrust of your testimony is that we should clarify who has the responsibilities to monitor—Do you have a great difficulty operating now under the current system? Let's say if Congress would just adjourn and not do anything about this for five years, what happens?

Mr. OSBORNE. Well, I would say, Senator, that we have no problem operating under the current environment. Given the legislative history of the Bevill Amendment, it provided a period of study of the mine waste issue. That period seems to us to have run its course. The studies have been completed. EPA has reached its conclusion. One of those determinations has been subject to a court review and the court has upheld the EPA's determination, and those determinations are that it would be most appropriate to regulate mine waste under subtitle D. If that's the case, we would support giving the EPA the necessary oversight authority to make sure that State-based programs meet specific requirements.

Senator SYMMS. Of subtitle D?

Mr. OSBORNE. Of subtitle D.

Senator SYMMS. And you agree with that, Mr. Ostler?

Mr. OSTLER. Well that was a long response. I think the initial question was are there existing mining operations where there are problems. I think the answer to that is that within this country there are.

The second thing is that there are, I would have to admit, some regulatory gaps that various States do not have mechanisms to deal with. The most prominent right now would be closure issues, financial assurance, and soil contamination would be examples of gaps. The States have done a study identifying the regulatory mechanisms that the States are using right now to control mining wastes, which I will make available to this committee, but it provides a very detailed matrix of just exactly what is in place and where the gaps are. Those gaps are changing because the States are improving their programs constantly; but there are gaps that exist today.

Senator SYMMS. But wouldn't you say though that with the technologies that are being used today, generally speaking, there is no risk to public health and safety with respect to the mining operations that exist in the country?

Mr. OSTLER. I would have a difficult time saying there is no risk. In every regulatory situation, there is a certain degree of risk. The type of regulation defines how much risk is there once the operation goes in place. If you have a facility containing cyanide that has a very good liner, there is still a degree of risk. It is a matter of how is that regulated and installed and operated.



Senator SYMMS. Thank you very much. Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Senator. I must say—you asked a question about health and safety—I remember looking at the Berkeley Pit in Butte, Montana, which is filling up with water because the pumps have been turned off. I can tell you that Butte, Montana, people are very, very worried that when that water level gets up 15 or 20 more feet it is going to very seriously contaminate the drinking water system in the city of Butte. It is a problem.

Mr. HOCKER. Mr. Chairman, if I may. I think the assertion that there is no risk to public health and safety from current mining activities is not supportable. Just to give two quick examples: In South Carolina last fall, there was a dam failure at a cyanide heap leaching mine and 10 million gallons of highly toxic cyanide was spilled into a live river. Fortunately, there was no municipal water intake on that stream for 110 miles downstream. So there was no immediate human health risk but there was a major wildlife damage.

Senator BAUCUS. I would like to ask Mr. Ostler admittedly a tough question.

Mr. OSTLER. They all have been.

Senator BAUCUS. Can you give the committee some idea of some appropriate prescriptive yet flexible standards that we in the Congress should direct EPA to pursue as we try to deal both with the problem and also with the needed flexibility?

Mr. OSTLER. I have trouble with the word "prescriptive". I don't think I can give you some appropriate prescriptive standards. I think that the States have prepared a report with their recommendations on how to regulate mining wastes, which I will make sure that this committee has if you do not already. It would be based around defining some broad-based national performance standards with EPA developing guidance documents that would identify more of the details but allow States flexibility to deal with it in a wet climate or a dry climate differently but to achieve the National performance standard for protecting public health and the environment for air, water, groundwater, soils. We have identified the areas that we think need to be in there with regard to performance standards. I would be very happy to provide that entire report to you which gives a very detailed description of how the States think that process could work. I think the importance is that the existing State programs that are adequate, the States would not like to see them revised just for the sake of meeting a prescriptive national requirement that accomplishes the same thing.

Senator BAUCUS. How would you suggest those broad-based performance standards be enforced?

Mr. OSTLER. I think the States believe that there is a need for a Federal approval process. That a State would develop a mine waste management plan to meet these broad-based performance standards and guidelines that EPA prepares, and that plan would provide the approval process, would provide for revocation of State programs either in full or in part, and that upon EPA's approval of the State program they could, in fact, enforce under proper conditions the elements of that State plan on a State-by-State basis. Where there was no State plan or no State willing to accept prima-

cy, we think it is necessary for the Federal Government to develop some minimums that they would use to operate in those States that did not want to accept primacy.

Senator BAUCUS. OK. Mr. Hocker, your thoughts on the subject. How do we do this?

Mr. HOCKER. There has been an ongoing series of dialogues, first around the EPA Strawman process and now the Policy Dialogue Committee that they've put together, and we've been wrestling with some of these issues. Just to pick one example though, I think sometimes we tend to make problems out of the flexibility issue which are fairly easily solved.

For example, talking about protection against erosion or storm-water events, there are engineering criteria for doing that where you talk about recurrence of a participation event—you know, a 25-year or a 100-year flood—and you can regulate in those terms and specify a degree of safety that you're going to require rather than saying you have to use an 8 inch diameter rip rap or a 12 inch diameter rip rap, or that your freeboard on your ponds has to be 36 inches; instead, you can say that it has to accommodate a certain precipitation event. In fact, many of the States within their own internal regulations use this approach already.

Senator BAUCUS. Mr. Osborne.

Mr. OSBORNE. Senator, in our suggested program, we have outlined a series of steps. The States would develop their own mine waste programs based on the specifics of the site and the environmental and health issues encountered at each site. EPA would issue guidelines—we don't believe they should be enforceable standards—that each State must meet in setting up their own mine waste programs. These guidelines should provide performance goals, and where specificity as to how retention ponds are built and so forth have no part in these guidelines.

EPA should have a review process and an opportunity to approve or disapprove. In the event that they disapprove, they should have the opportunity to impose their own program on States which were unable to come up with their own program.

We think it is possible to put such a program together and we think that's the proper way to proceed.

Senator BAUCUS. Let me ask you about mineral processing. If there were more stringent requirements—that is to say some kind of performance standard, flexible and so forth—let's say that there is more focus on mineral processing because it is agreed that that's the greater problem, what is the cost to the nonferrous metals industry to meet not subtitle C but a fairly good, solid, significant mineral processing standard that's properly enforced?

Mr. OSBORNE. I guess in the case of ASARCO—and I can answer only personally at this point because this is not a subject that has been studied by the AMC in any detail.

Senator BAUCUS. Right.

Mr. OSBORNE. I would say we are meeting those kinds of standards today and those costs are implicit in our current operating results. I think that is true with most responsible mining operations.

Senator BAUCUS. What do you mean by "those standards"? Which standards are you meeting?

Mr. OSBORNE. There is included in our formal material a fairly elaborate array of State-based programs and an analysis of what each of those programs are. Mining in the State of Montana or mining in the State of Arizona is subject to a substantial amount of State regulation, as well as regulation associated with Clean Air and Clean Water Acts. So we feel as though we are fully regulated today, and I have to say we feel we are operating safely and safeguarding the environment at the same time.

Senator BAUCUS. OK. Thank you.

Senator SYMMS.

Senator SYMMS. No more questions, Mr. Chairman. I want to thank all the witnesses for being here.

Senator BAUCUS. I would also like to touch just briefly on a point that Senator Symms made, which is a very good one, and that is America's competitive position. It is clear that in this decade and into the next century we Americans are going to find a sort of convergence on the one hand of environmental issues, and on the other hand trade and competitiveness issues. It just happens that the world is so mobile, it is a mobile economy, it is a mobile society we live in today. What thoughts do any of you have as to the proper way that we Americans should address this question? On the one hand, we could cut back our health and environmental standards. I don't think that's a great idea frankly. On the other hand, we could somehow use leverage to encourage other countries to increase their standards. That's an issue that's involved now in the U.S.-Mexican Free Trade Agreement negotiations, that is to what degree are our American industries at a competitive disadvantage because of lax environmental enforcement in Mexico.

Mr. OSBORNE. Perhaps I can comment on that inasmuch as we operate in a number of countries around the world as well as in the United States. It is remarkable the extent to which the environmental issues are now starting to be addressed in countries where previously they were not issues at all. Mexico is becoming very environmentally sensitive. Only a few years ago the Mexican smelters were permitted to operate in an uncontrolled fashion so far as sulphur dioxide recapture was concerned. That is no longer the case, and the Mexican operations are under increasing environmental pressure from their own version of EPA.

The same is becoming true in Peru where we operate. The Peruvian authorities, both Federal and regional, are becoming increasingly sensitive to these issues.

There is no question that the U.S. industry operates at a competitive disadvantage today compared to less developed countries because of these environmental issues. But I agree with you, it is not a practical concept to consider rolling back our environmental plans. I do think other countries are becoming more sensitive to the issue, perhaps as a result of Mr. Hocker's efforts.

[Laughter.]

Senator BAUCUS. Mr. Hocker.

Mr. HOCKER. I find again a lot of agreement with Mr. Osborne. It is clear that for a variety of reasons, including some very good, innovative, and creative work by the mining industry management over the last ten years—which I think is really commendable—the U.S. hard rock mining industry has been brought back into a com-

petitive position internationally. I think gold is the metal which most illustrates that. Gold production in the U.S. has increased tenfold over the last decade and with substantial foreign participation. We've done a study of the 25 largest gold mines in the country, as identified by the Bureau of Mines, and we find that 18 of those have 40 percent up to entire foreign ownership. So it is clear that the U.S. is not an unattractive place to do business in the mining industry internationally.

I don't mean to gloss over the problem. I think it is also clear that while from an environmental point of view we may have some disadvantages weighed against other countries, if you look at what is known in the trade as "country risk" and——

Senator BAUCUS. That's true. Infrastructure problems and——

Mr. HOCKER. Infrastructure. And all you have to do is say "Bougainville" and anybody who follows the copper industry knows that country risk can involve severe political and guerilla activities, too. So we have some very strong advantages which offset our tight environmental standards.

I think that over the long term we have to anticipate that there will be an ebb and flow in this industry as ores of a particularly high grade are discovered, developed, and worked out in one country and then the exploration activity is concentrated in less heavily tested areas. But over time, I think developing the technology, which we are doing, to successfully mine in an environmentally safe way will be probably the greatest long-term benefit that we can provide for the U.S. hard rock mining industry by putting them at that technological cutting edge.

Senator BAUCUS. Thank you very much.

If there are no further questions, I want to thank all of you for taking the time to come here and help address this issue.

The hearing is adjourned.

[Whereupon, at 11:30 a.m., the subcommittee recessed, to reconvene on Thursday, September 12, 1991, at 10:00 a.m.]

[Statements submitted for the record follow:]

#### PREPARED STATEMENT OF ROBERT KRUEGER

##### INTRODUCTORY STATEMENT

Mr. Chairman, Members of the committee, thank you for the invitation to appear here today. I'm Robert Krueger, one of three members of the Texas Railroad Commission, a century-old commission that has, since 1919, regulated the exploration, production, and transportation of oil and gas in the State of Texas, which today produces roughly a quarter of this nation's oil, and a third of its natural gas. Additionally, I'm here to speak for the 29 States that make up the Interstate Oil and Gas Compact Commission and account for 99 percent of the oil and gas production in this country.

We in Texas and we as members of the IOGCC appreciate your concern for the environment and your interest in energy production. All of us, whether we are Members of Congress, or of State conservation commissions, recognize that the public today is asking us to protect our environment and our people from hazardous substances so that the next generation may inherit a land blessed rather than defiled by our footprints.

Like you, we view our role primarily as stewards rather than users or destroyers. With care and balance, you can benefit our environment and future generations by your legislative action. And yet, without care and attention, RCRA reauthorization could unintentionally destroy tens of thousands of American jobs, devastate the economies of several States, and transfer responsible environmental expro-

ration drilling activities from the U.S.A. to locations abroad, where irresponsible exploration could wreak worldwide environmental harm.

It is no exaggeration to say that if the wrong policies were to be enacted, much of the domestic energy industry would be killed in the U.S.A. Only the multinational energy giants would survive. And they would speed their flight from America to search for oil and gas abroad. The sheiks would smile, while our unemployment lines grew. And our environment would be no better for the action.

I do not expect that to happen—but it could, if wrong policies were adopted.

Take my State, for example: Texas had 250,000 oil and gas wells producing in 1989. Over 150,000 people were employed in the State in jobs relating to oil and gas extraction; and approximately 1.9 million barrels of oil and 15.3 billion cubic feet of natural gas were produced each day.

If production wastes were to be regulated as industrial wastes under RCRA amendments in Senate Bill 976, oil and gas extraction activity would decline precipitously. You are perhaps aware that the Gruy study estimated that under such regulation 147,912 existing oil wells in Texas alone would have to be plugged and abandoned—a decrease of 74 percent. Twenty-seven thousand, nine hundred and nine (27,909) existing gas wells would be plugged and abandoned, a decrease of 56 percent.

Legislation classifying production wastes as industrial waste would sweep like a scythe through the oil and gas fields, leveling derricks and crippling the educational and operational budgets of oil and gas producing States. Meanwhile, huge capital outflows would leave this country to satisfy our domestic demand for energy. The lines of oil tankers from overseas would increase; the unemployment lines in this country would lengthen; and the drain of dollars would be sucked up in the sands of the Middle East.

The major oil companies would survive: they have refining and marketing capacity; their major profits are from downstream activities. In fact, every major oil company but one already spends the majority of its exploration and production budget overseas. Thus their capital outflows would increase. But for many smaller domestic producers—the independent producers who historically have found 80 percent of the new oil in this country and who have no downstream activities—such re-regulation would mean an end to their business.

My reading of Senate Bill 976 is not that it intends to treat production wastes as industrial wastes. But I offer this caution because the consequences would be so grave that to ignore this possibility would be irresponsible of me. Like you, I am elected by the people. My constituents, like yours, value conservation and want a clean environment.

Just as Senate and House members justifiably have concern for the jobs and environment of their home States, and know that their constituents will look to them for protection, so the voters in Texas for a century have looked to the Texas Railroad Commission to protect their environment and their jobs. And we have been doing just that.

In 1919, more than half a century before the EPA was begun, the Railroad Commission adopted rules requiring that fresh water be protected during the drilling and plugging of oil wells. Since then, the Commission has adopted increasingly stringent and more comprehensive water protection rules.

- In the 1930's, the Commission strengthened its plugging requirements and began regulating the use of injection wells.

- In 1969, the Commission issued a statewide pit order that required Commission approval to use a surface pit to store or dispose of salt water.

- A 1965 bill passed by the Texas Legislature appropriating monies for a new well-plugging fund has gone through various adaptations since. Most recently, the Texas Legislature in May, 1991, established an environmental clean-up fund from fees paid by the industry to clean up oil field pollution that might threaten surface and sub-surface waters.

Each week when the Commission meets, we vote to assess fines that can be set as high as \$10,000 per day against producers who through negligence or deceit have violated State environmental regulations. We appreciate a concern in Washington for the water quality and environment of our State. But I guarantee you that nobody is more concerned about that quality than the people of Texas who drink that water, take their food from that soil, and breathe the air surrounding those wells.

In 1935, at the suggestion of President Franklin D. Roosevelt, the Interstate Oil Compact Commission was established among the major oil producing States. Today, each of the 29 member States has a regulatory agency that is directly concerned with and regulates the production of oil and gas and the disposition of wastes which

are a necessary byproduct. No one is likely to be more concerned for the proper disposal of these wastes than the regulators charged by the people among whom they live to control them. And no one is likely to be more knowledgeable. We as regulators are the friends and neighbors of the people whom our environmental rules are intended to protect. We within the States have the expertise and experience with land technology and with the people within our borders. The Railroad Commission of Texas alone has about 1,000 employees, the largest number of which work in the Oil and Gas Division. Working together, the State regulatory agencies have demonstrated in many ways their ability to initiate and supervise these environmental programs.

Long before there was an EPA, or before Congress focussed its attention on these matters, the Railroad Commission, like comparable regulatory agencies in other States, began the Underground Injection Control Program. We regulators in various States continue to consult with one another and to upgrade our programs. In January, 1989, the Interstate Oil and Gas Compact Commission began a project with the EPA to develop a report to focus on the elements necessary for an effective State regulatory program. This project was completed in December 1990. The IOGCC is continuing to support the States' efforts by collecting the States' regulations into a central database system; developing a training program to further educate State field inspection personnel in environmental issues; and coordinating a State review project where individual State regulatory programs are compared with the IOGCC report.

As a result of this work, a peer review process has already begun so that each State has the opportunity to have its regulatory program judged by its peers from comparable States. This peer review process is particularly appropriate because each State regulator understands that his State is likely to have some problems that are unique as well as many that are shared. Even within a State like Texas, for example, the arid plains of West Texas, where annual rainfall is ten inches or less per year, pose quite different environmental problems from East Texas, where rainfall exceeds 40 inches. The depth at which potable water is found varies considerably, as do the cementing requirements to protect these water supplies. State regulatory agencies have the experience and flexibility to accommodate these demands. A set of regulations or directives conceived in Washington and applied nationwide would not. The costs would compound; the beneficial results would diminish. And the complicated tiers of regulation would drive more drilling, more capital, and more jobs overseas at a time in which America's energy security is already precarious. Like many IOGCC regulatory agencies, the Railroad Commission continually updates its regulations and seeks to improve its protection of the natural heritage which we are charged to conserve.

Let me cite a few examples of initiatives we have undertaken on our own since 1980, the year in which oil and gas E & P wastes were exempted from regulation under RCRA.

1. In 1981 the Commission amended its rules governing injection wells to establish more specific technical standards and new monitoring programs.

2. In 1981 the Commission adopted a new rule governing underground hydrocarbon storage wells.

3. In 1982 the Commission amended its rules to specify state-of-the-art requirements for casing, cementing, drilling, and completion of wells.

4. In 1983 the Commission was given authority to assess administrative penalties of up to \$10,000 per day for violation of its rules relating to pollution.

5. In 1984 the Commission amended its rules regulating surface storage and disposal of all oil and gas wastes. The amended rules require that storage and disposal methods either be authorized by rule or permitted. All previously permitted pits had to be re-permitted under the standards of the amended rules.

6. In 1986 the Commission adopted a new rule on discharges of oil and gas wastes in anticipation of obtaining Federal authorization to administer the NPDES program, for which preliminary application was submitted to the EPA in 1990.

7. In 1990 the Commission adopted a new rule concerning the reclamation of crude oil to expand permitting requirements and to require a bond to ensure that reclamation plants are operated and closed in accordance with the Commission rules.

Working with our State legislature this year, the Commission has been given new authority to ensure compliance with environmental regulations:

- a. Oil and gas producers must comply with all State laws and Commission rules before new drilling permits may be granted.

b. Before conducting any oil and gas operations, producers must prove their financial ability to correct or control any pollution that might be associated with their oil and gas activities.

c. The Commission has new authority to regulate haulers of oil and gas waste.

d. The Commission has enlarged authority over generators of non-exempt oil and gas wastes that are hazardous as defined in recent EPA regulations.

e. The Commission is given a fund of approximately 10 million dollars per year to plug abandoned wells and clean up oil field pollution.

The Commission has recently taken other steps to protect the environment. This year the Commission adopted rules to protect migratory birds from harm which might befall them in oil and gas producing areas. All oil and gas producers must screen, net, cover or otherwise render harmless to birds all open-top storage tanks eight feet or more in diameter, and all pits likely to contain some oil.

Also, this year the Commission began developing a pollution prevention program to inform oil and gas producers of ways in which they can reduce the amounts of waste they generate in their E & P activities.

It is important to keep in perspective the wastes that are generated in producing energy for our country:

1. 98 percent by volume of all oil and gas wastes consist of salt water. This salt water is found and produced along with oil and gas, and is normally returned by the producer to the very zones underground from which it was initially removed. In short, "the wheel is come full circle." The salt water, found in nature, is returned to the same spot in nature from which it was taken.

2. Drilling muds, which consist largely of water, clay and barite, constitute approximately 1.6 percent of the waste stream. The volumes are high, the toxicity low.

3. The remaining portion of so-called "associated wastes" constitutes only 0.4 of 1 percent of the volume of the waste stream. Although some benzene is present (at very low levels, when compared with other industries or with gasoline), the items found here are generally high in volume but low in toxicity.

We in Texas, and indeed the people of most producing States, do not have sufficient good water so that we can waste it. It has not only been our intent but our success for most of the past half century to have developed the technology and the will to protect fresh water supplies, and to return produced (salt) waters to their original source.

We consider it absolutely essential that the exemption from RCRA Subtitle C of oil and gas wastes be continued, and be subject to State control rather than to distant, inflexible, and perhaps inappropriate Federal directives.

We at the Railroad Commission and we of the IOGCC agree with the conclusions reached by the EPA in its report to Congress in December 1987, and its Regulatory Determination as reported in the Federal Register on July 8th, 1988. Basically, the EPA said it could not do as good a job as the State regulators were doing, and in the immortal words of Bert Lance, "if it ain't broke, don't fix it."

The EPA believed that existing State and Federal programs under the Safe Water Drinking Act and the Clean Water Act were generally adequate, and that any gaps should be filled with the help of States rather than by imposing uniform Federal waste regulations that define oil and gas wastes as hazardous.

In reality, oil and gas wastes pose no significant threat to public health and the environment when they are properly managed: they are relatively low in toxicity; State programs developed over a half century, and relatively recent Federal programs have together protected the environment; and there have been remarkably few damage cases documented by the EPA.

Prescriptive RCRA requirements such as those in Subtitle C apply, appropriately, to industrial and petrochemical hazardous wastes. These requirements, in Texas, are enforced by the Texas Water Commission and necessarily have little flexibility. Flexibility, on the other hand, is required for the high-volume, low-toxicity wastes produced in the drilling process. It would be extraordinarily difficult to monitor the 250,000 well sites and 15,000 operators that are present in Texas alone. Yet, to shut down these wells would not only bring economic disaster to Texas, but would damage our entire national economy and have profound national security implications.

The existing waste disposal sites for Subsection C wastes would be entirely inadequate for the high volumes of oil and gas wastes (which are not fact hazardous), and would require an army of Federal inspectors that could better protect our population by focussing their attention elsewhere.

Good cooperation already exists between the various States through the IOGCC, and through both peer review and self-review procedures.

Like you, we elected officials at the Railroad Commission, and the regulatory officers in other oil and gas producing States, have a profound concern for our own responsibilities and for protecting the environment and the people among whom we live. As our technical knowledge has advanced over the past 70 years so have our enforcement proceedings.

While imperfect, we are proud of our past performance, and of the initiative that State regulatory agencies undertook long before an EPA even existed. We have sought to make sure that, while our population gained the benefits of energy from under the earth's surface, it returned possibly dangerous wastes to depths beneath that surface. In doing so, our citizens could gain the benefits without suffering the risks of energy production. No set of Federal regulations could substitute for the experience, the knowledge of direct operations, the flexible and specific understanding of varied geological zones and geographical areas that State regulatory bodies possess.

Please don't ask us to spend our time simply trying to understand and adhere to Federal regulations, many of which might be inappropriate for our particular needs. Let us continue to improve in our task of protecting the citizens and preserving the natural heritage for which we have been given responsibilities as stewards.

We appreciate the concern that you have for the health and environment of our nation. We want you, and members of the Executive Branch whom your laws direct, to be able to devote your time and energy where they are best placed. That need is not with the high-volume and low-toxicity waste waters produced in pumping oil and gas. Those minor problems we at the State level are fully equipped to handle. We wish you to be free to address the other larger questions more deserving of your attention.

I thank you for this opportunity to appear before you, and will be pleased to respond to your questions.

#### RESPONSES TO QUESTIONS FROM SENATOR BAUCUS AND SENATOR CHAFEE

*1. Is there reason to remove, by Federal legislation, the Bevill exclusion for oil and gas activities? Why or why not?*

No. The exclusion of oil and gas activities is appropriate when you consider the high volume and relatively low toxicity of the wastes generated by those activities. In its Report to Congress on oil and gas wastes, EPA stated that documented damage cases and quantitative modeling indicate that health and environmental damage caused by oil and gas operations by exempt oil and gas wastes tend to be associated with violations of existing State and Federal regulations.

EPA determined that existing State and Federal programs for oil and gas wastes are generally adequate. Any gaps in the regulation of oil and gas wastes can be addressed by improving existing State and Federal regulatory programs.

*2. Are oil and gas wastes more appropriately regulated as hazardous (RCRA Subtitle C) or solid (RCRA Subtitle D) wastes?*

Neither. It is neither appropriate nor necessary to regulate oil and gas wastes as hazardous wastes because of the high volume and low toxicity of these wastes. It is also neither appropriate nor necessary to superimpose an additional program under Subtitle D on the existing State and Federal programs, which EPA has determined to be generally adequate for management of oil and gas wastes. These are special wastes, and as such, should be addressed separately. Regulating these wastes under either Subtitle C or Subtitle D would impose a substantial burden on State and Federal Governments and industry while providing little additional benefit to human health or the environment.

*3. Which oil and gas waste streams pose the greatest concern to human health and the environment?*

If handled improperly, produced waters pose the greatest concern to human health and the environment. Produced waters constitute the largest category of oil and gas waste. Most produced waters contain soluble salts and some hydrocarbons that are highly mobile in the environment and detrimental to the quality of groundwater, surface water, and land.

*4. If the Federal Government were to enact legislation that would regulate oil and gas wastes, should the Federal Government or the States have primacy? Why?*

The States should have primacy. The States were regulating oil and gas operations and waste management practices for decades before EPA was even created. We understand the oil and gas operations in our States and their waste manage-



ment practices. We also understand the regional variations and the unique problems associated with the management of oil and gas wastes within our States.

*5. What are the health and economic implications of regulating oil and gas wastes under RCRA Subtitle C rather than under RCRA Subtitle D?*

Because oil and gas wastes are generally low in toxicity and adequately regulated under existing State and Federal programs, very little benefit to human health and the environment would be gained by regulating these wastes under RCRA Subtitle C. However, the cost to the public, the nation, the States, the regulating agencies, and the industry would be enormous. The economic effects of Subtitle C regulation on the Nation would be equivalent to the disruption caused by the 1986 oil crisis.

If oil and gas wastes must be regulated under RCRA, special regulations that complement rather than duplicate or disrupt existing State and Federal regulations would be more appropriate. In the Regulatory Determination, EPA states that it believes that it can develop a program tailored specifically for oil and gas wastes.

*6. What should be the role of the Federal Government in an oil and gas regulatory program? The State role?*

The States should have the major role in regulating oil and gas wastes for the reasons noted above. If additional regulations are needed, the States should strengthen their existing programs.

The Federal Government should concentrate on improving existing Federal programs under the Clean Water Act and the Safe Drinking Water Act to close the gaps identified in EPA's Report to Congress and Regulatory Determination. The Federal Government should also help fund the States that will implement any additional requirements under these existing Federal programs.

*7. Does the existing RCRA statute presently contain sufficient authority to address oil and gas waste issues through administrative mechanisms, or is legislation necessary to accomplish this?*

Additional legislative authorities under RCRA may be needed to address interstate transportation of oil and gas wastes.C.

COMMENTS ON S. 976 AS FILED

*General comments on the Subtitle D amendments*

The provisions of S.976 that amend Subtitle D of the Resource Conservation and Recovery Act (RCRA), recognize and attempt to accommodate the solid waste management programs already existing in many States. The Railroad Commission supports these aspects of the legislation. Many existing State programs already adequately protect human health and the environment, and the States are actively working to address new environmental issues as they develop. Additional Federal requirements should not be imposed unnecessarily.

As State regulators of wastes associated with the exploration, development, and production of oil and gas (oil and gas wastes), we are convinced that certain provisions of the Subtitle D amendments impose unnecessarily burdensome and costly requirements. Some requirements would adversely affect existing State programs and the regulated industry by diverting limited resources to activities that provide little incremental benefit to human health or the environment.

EPA has already determined that existing State and Federal programs for oil and gas wastes are generally adequate to protect human health and the environment. Why then mandate a new Federal permitting program for these wastes that will require considerable additional effort and expense on the part of both State and Federal Governments and also of industry? EPA recommended that any gaps in the existing oil and gas waste management programs be addressed individually, rather than by superimposing another Federal program on the existing programs. Accordingly, to the extent that Congress finds a need for additional Federal regulation of oil and gas wastes, special provisions should be drafted for these wastes. They should not be lumped in with other solid wastes in the new, comprehensive permitting program under Subtitle D. Instead, they should be addressed separately. By addressing these wastes separately, Congress and EPA will be able to tailor the Federal requirements to fill any gaps without disrupting the existing programs and imposing unnecessary requirements and costs.

Furthermore, any new RCRA requirements for oil and gas wastes should not apply to oil and gas wastes disposed of or recycled by injection. About 98 percent of the oil and gas waste generated in Texas are "produced waters," that is, primarily salt water found underground with oil and gas and brought above ground, or "produced," along with oil and gas.

In the State of Texas, we produce approximately 1.75 million barrels of oil daily and about 17 million barrels of "produced waters" daily. The expense of disposing of this water is already great, and tends to make U.S. oil more expensive to produce than oil in, for example, the Middle East or Indonesia. Most of this water is now ultimately returned to the underground zone from which it came. There is, therefore, no damage to the environment. We have simply removed the oil from the water so that people may use the oil, and then returned the water to its place in nature, much as someone picking apples from a tree removes the apples for use, while the tree remains behind as before.

More than 75 percent of the wells in which the produced waters are injected are used in enhanced recovery projects. As the EPA noted in its July 8, 1988 regulatory determination on oil and gas wastes, produced waters reinjected in enhanced recovery projects are being beneficially recycled as an integral part of the production process.

Injection wells used in oil and gas operations are fully addressed by the Safe Drinking Water Act (SDWA). Under the authority of that law, both EPA and the States are currently evaluating whether any additional requirements are necessary for these wells. Dual regulation under both the SDWA and RCRA invites conflict and duplication of effort. Injection wells should therefore be specifically excluded from the provisions of this legislation.

#### *Specific concerns about permitting, recycling, and planning*

1. *Permitting*—A number of the Subtitle D permitting provisions in S.976 may work satisfactorily for the municipal wastes and industrial wastes for which they were designed, but are inappropriate for the special category of oil and gas wastes. Some of these permitting requirements, for example, would drastically increase our workload and costs because of the sheer numbers of oil and gas facilities affected. Moreover, these requirements are unnecessary in States like Texas that already have regulatory programs in place that adequately protect human health and the environment. Whatever incremental environmental benefit would be gained from these requirements could not justify the additional effort and expense.

Take one example. The bill requires that all State permits for solid waste management facilities be reissued within forty-eight months of its enactment. Furthermore, the maximum term of a permit will be five years; therefore, permits will have to be renewed at least once every five years. Thus, the Railroad Commission would have to consider reissuing each of its 6,000 pit permits and 13,000 disposal well permits within four years and then again every five years. At that rate, the Commission would have to process permit applications at an average rate of more than 75 per week. And this number does not include applications for new permits. All of this re-permitting activity is simply excessive. The USA will not recapture its position as a world leader in productivity simply by enlarging paperwork.

The permits issued by the Railroad Commission already contain monitoring, testing, and reporting requirements to ensure that oil and gas operators properly maintain and operate their facilities. In addition, the Railroad Commission has an aggressive inspection and enforcement program in place to ensure compliance with permit conditions. And we review permits as the need arises, such as when we receive complaints about a facility, or our field inspectors discover a problem. These procedures are sufficient to ensure that human health and the environment are protected.

As another example, consider the permit-by-rule provisions of the bill. These provisions would give the State the flexibility to permit some classes of oil and gas waste management facilities by rule, instead of issuing an individual permit for each facility. We anticipate that most of the approximately 150,000 leases in Texas have some facilities that would have to be permitted by rule. For example, most of the producing leases in the State would have one or more saltwater storage tanks. These tanks would have to be permitted by rule because it is not feasible to permit each one of them individually. Some of the conditions that the bill places on permits by rule, however, present problems. Before constructing or operating a facility permitted by rule, the operator would have to notify the permitting agency and other interested persons.

To handle the notifications we would receive on saltwater storage tanks alone, the Railroad Commission would need a whole new unit, with additional technical and clerical personnel and data processing equipment. Also, each facility permitted by rule would have to be inspected by the State annually. That amounts to over 12,000 lease inspections each month in Texas alone. The Railroad Commission would need many times the number of inspectors we currently have. The costs would be astro-

nomical. The risks posed by these facilities simply do not justify the massive expenditures needed to regulate them as required by this bill.

These examples show why oil and gas wastes should be regulated separately, if at all, under RCRA. If, however, Congress does ultimately decide to cover oil and gas wastes under Subtitle D of RCRA, EPA and the States should be given more flexibility in establishing permit terms and conditions.

We endorse the approach taken by the bill in allowing the Governor of a State to certify that the State has the regulatory authority and personnel to administer and enforce the permitting program, rather than requiring a State that meets Federal standards to go through a lengthy and cumbersome approval process. However, the bill does not give a State adequate time to make this certification. One year is not enough time for a State that will require new legislation to implement the permitting program, as most States probably will. Texas, for example, may need some additional authority to collect fees to support the program. The Texas legislature, however, meets biennially. Therefore, Texas may need up to two years to make the required certification. Some provision needs to be made for this possibility. We also question the funding provisions for the proposed Subtitle D permitting program as they would apply to the oil and gas industry. The federally mandated permitting program for oil and gas wastes would be required to be supported solely by permit fees. The State would have to collect fees from oil and gas waste management facilities to cover all costs associated with permitting, monitoring, enforcement, and rule-making. Major oil companies already spend the majority of their exploration and production budgets on overseas exploration and production. Such fees would only hasten their departure from our shores and would thereby increase our economic and military dependence on foreign oil. Smaller, domestic producers are already struggling. And to expect State treasuries, with their bare larders and budget crises, to find such funds is fruitless. Therefore, if Congress mandates significant new requirements for oil and gas wastes, Congress should support the new requirements with Federal funds. The Federal Superfund, for example, might support a new permitting program for oil and gas wastes if Congress establishes such a program.

2. *Recycling*—We read the provisions of S.976 dealing with recycling with special interest because we are currently developing a program to encourage oil and gas operators to incorporate source reduction and recycling practices into their operations. Generally, the bill appears to give EPA the flexibility it needs to establish necessary standards and requirements for recycling without interfering with legitimate and beneficial recycling activities. We are concerned, however, with the provisions of the bill that address the collection, storage, transportation, and recycling of used oil. Used oil that is not managed in accordance with the standards developed by EPA in accordance with this bill will have to be managed as hazardous waste. Our specific concern about the used oil provisions is their effect on the handling of used oil generated in the oil field. Much of that used oil is currently returned to the crude oil stream for recycling through the refinery. As currently drafted, this bill effectively prohibits this environmentally sound practice.

3. *Planning*—The planning provisions of S.976 will require the State to develop and implement a solid waste management plan containing detailed information about the type and amount of each solid waste stream; the identity and capacity of each solid waste management facility and recycling facility; the amount of solid waste that will be reduced, recycled, transported out of State, or disposed of or incinerated within the State; and measurable goals for solid waste reduction and recycling. The plan must be submitted to EPA for approval within thirty months after enactment of this bill. Thereafter, it must be reviewed and revised at least once every five years. In addition, the State must submit annual reports to EPA on its progress in implementing the plan and achieving the goals established in the plan.

The Railroad Commission will have to work closely with other environmental agencies in Texas to develop and implement the State plan. Our major concern about the planning requirements relates to funding. The planning effort outlined by this bill involves extensive data gathering, data management, and reporting. Ten million dollars a year in Federal funds are authorized to assist the States in this planning. When this sum is distributed among the U.S. States and territories, however, it will not go far. We anticipate that the State of Texas, being a large, urban, industrial State, will need substantially more financial assistance for the planning effort than the bill now provides.

## RESPONSES TO QUESTIONS BY SENATOR SIMPSON

*Question 1:*

In the Regulatory Determination, how did EPA characterize the majority of wastes generated by petroleum industry exploration and production activities?

*Answer:*

Oil and gas wastes fall within a general category of wastes that RCRA currently regards as "special" because of their unusually high volume and because of their relatively low level of apparent environmental hazard (December 1987 Report to Congress on Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy, Executive Summaries, Page 2).

In characterizing oil and gas wastes during the study preceding the Report to Congress and the Regulatory Determination, EPA did find some constituents at levels of potential concern. However, EPA's modeling of the potential effects of the disposal of produced water (which constitutes 98t of all oil and gas wastes) by injection, and the disposal of drilling waste (which constitutes 1.6 percent of all oil and gas wastes) in reserve pits showed that the "potential risks to human health and the environment were small" (53 Fed. Reg. 25454 (July 6, 1988)).

*Question 2:*

What has the drilling industry done to address the concerns expressed in the regulatory determination regarding high volume low toxicity drilling waste?

*Answer:*

Industry has continuously improved its waste management practices and developed new waste management technologies. For example, many companies in Texas have closed their pits and installed above-ground storage tanks since the Railroad Commission amended its requirements for construction, operation, and permitting of pits in 1984. Industry is continuing this trend, as evidenced by the fact that the Commission has cancelled more pit permits than it has issued for the last two years.

Industry is also becoming increasingly active in pollution prevention through waste minimization, reduction of waste toxicity, and recycling. Closed-loop systems are being used more frequently to increase the recycling potential of wastes and to minimize the ultimate volume of wastes. And more companies are substituting less toxic products in oil and gas operations. For example, drillers are substituting mineral oil for diesel oil in drilling fluids and eliminating chromium-containing additives. Also, gas plant operators are replacing products containing chromium and arsenic with less toxic products.

As the agency responsible for regulating the oil and gas industry in Texas, the Railroad Commission is encouraging, and in many cases requiring, industry to address the concerns expressed in the Regulatory Determination regarding high volume, low toxicity oil and gas wastes. We have made, and continue to make, an aggressive effort to strengthen regulations and increase compliance. For example, the Commission has increased testing requirements to better characterize wastes prior to disposal and has upgraded permitting requirements for land disposal facilities.

*Question 3:*

The other major waste stream mentioned was produced water, what is the current regulatory status of this material?

*Answer:*

The disposal of the largest volume of oil and gas waste-produced water—is regulated through existing Federal programs under the Clean Water Act and the Safe Drinking Water Act. These programs, whether directly implemented by EPA or delegated to the States, are satisfactory mechanisms for regulating any waste covered under them.

Essentially all of the water produced in Texas is either reinjected or discharged, and is therefore covered by these programs. In Texas approximately 95 percent of the produced water is reinjected pursuant to a federally delegated Underground

Injection Control program, which EPA has repeatedly praised as being a model program. Almost all the rest is discharged to Gulf waters under authority of a State permit. The Railroad Commission is in the process of applying for approval to administer the Federal NPDES permitting program for these discharges.

Very minute quantities of produced water are disposed of in pits in Texas. These pits must be permitted by the Railroad Commission. The Commission will only issue

a permit to dispose of produced water in a pit after very thorough review and after the applicant has conclusively shown that use of the disposal pit cannot cause pollution of surface or subsurface water, either because there is no water or because the water is protected by an impervious, laterally continuous barrier from any wastes that might escape or migrate from the pit.

*Question 4:*

In your opinion, if Exploration and Production wastes, specifically drilling wastes and produced water, were to be regulated under RCRA Subtitle D as S. 976 illustrates, what effect would this have on the domestic oil and gas industry?

*Answer:*

Excessive regulation of oil and gas wastes under Subtitle D could kill much of the oil and gas industry, destroying tens of thousands of American jobs, devastating the economies of several States, and driving exploration and production activities overseas.

Without care and attention, unnecessarily burdensome and costly requirements could be imposed on oil and gas wastes that could divert the limited resources of the industry to activities that provide little incremental benefit to human health and the environment. Although the actual costs to the industry and the national economy are being debated, it is no exaggeration to say that if oil and gas wastes were to be regulated as industrial wastes under the RCRA amendments in Senate Bill 976, oil and gas production would decline precipitously. Many of the small independent domestic producers who have historically found 80 percent of the new oil in this country would be forced out of business. And many stripper wells, which account for about 70 percent of domestic oil wells and 14 percent of domestic oil production, would have to be plugged prematurely. Major oil companies, which already spend the majority of their exploration and production budgets overseas, would survive, but would speed their flight from U.S. shores, increasing the flow of U.S. dollars abroad. And our environment would be no better for the action.

## STATEMENT OF THE AMERICAN PETROLEUM INSTITUTE

### I. INTRODUCTION

#### *A. Industry Concerns*

The issue of how oil and gas exploration and production (E&P) wastes are treated under the Resource Conservation and Recovery Act (RCRA) is the most far-reaching and significant policy concern confronting the oil and gas industry during this session of Congress. Oil and gas production wastes, when properly managed, present minimal threat to human health and the environment. This is because these wastes are already thoroughly regulated under a myriad of State and Federal laws. At issue before Congress is whether additional Federal regulations under RCRA should be required under either Subtitle C or Subtitle D. Neither is appropriate. Neither was designed to deal with the type of waste generated during oil and gas exploration and production. Nor will further Federal regulation bring new resources or new expertise to the regulation of production wastes.

Yet, changes in existing procedures would have immediate and dramatic consequences for domestic energy production and America's energy security. These potential impacts are clearly documented in a study recently completed for the American Petroleum Institute (API) by Gruy Engineering of Dallas. The study demonstrates that if E&P wastes were to fall under the regulatory scheme outlined for nonhazardous industrial waste in the new Subtitle D of S.976, the result would be the premature abandonment of over 80 percent of domestic oil wells and over 75 percent of domestic gas wells. It would result in the loss of 2,500,000,000 barrels of recoverable oil reserves and 10,200,000,000 cubic feet of recoverable gas reserves. Domestic oil production would decrease by 440,000,000 barrels the first year, which exceeds the 407,000,000 barrels imported from Saudi Arabia in 1989. The costs of compliance to the oil and gas industry would be in the \$50 to \$60 billion range, which is about 3.5 times the \$14.6 billion that industry invested in onshore exploration and development according to API's 1989 Survey on Oil and Gas Expenditures.

#### *B. Industry Position*

The domestic oil and gas industry, from the smallest independent producer to the largest integrated company, is united on this issue. We believe that the Environmental Protection Agency (EPA) was correct when, only 3 years ago, the Agency determined that E&P wastes should continue to be exempt from hazardous waste

regulation and continue to be regulated under existing State and Federal regulations. The current regulatory process works well. It is being improved, and it is fully capable of responding to emerging E&P waste management issues. The States have decades of experience in regulating production wastes. They understand the needs unique to their jurisdictions and they should retain regulatory authority. We also support the on-going efforts of the States and EPA to improve State and Federal regulatory programs where necessary.

Congressional decisions regarding the treatment of E&P wastes will be a major factor in determining the future of domestic oil and gas production. The potentially huge cost of complying with new regulations would directly affect our ability to continue production from existing wells and re-define the circumstances under which the oil and gas industry places capital at risk to drill for new oil and gas reserves.

### *C. National Energy Impact*

There is a strong likelihood that both the House and Senate will soon be debating comprehensive energy legislation designed to make maximum effective use of America's domestic energy resources. The Administration has devoted substantial time and energy to the same important policy considerations. During the past year we have seen the dangers of energy dependence vividly demonstrated in the Persian Gulf.

There is a clear consensus that America needs to increase energy production here at home, use that energy more efficiently, and—to the maximum practical extent—reduce our dependence on imports. Ironically, at the same time, some are urging Congress to amend RCRA in a way that would force hundreds of thousands of oil and gas wells to be shut in, cause domestic production to plummet, diminish our reserves, and discourage future exploration. The inevitable consequence of such measures would be to increase our energy dependence and undercut any benefits that may be realized from energy policy proposals currently under consideration.

### *D. Production and Economic Impact Analysis—Gruy Model*

In order to more accurately determine the potential economic impacts of various RCRA Reauthorization scenarios relating to E&P wastes, Gruy Engineering Corporation (Gruy) has developed a Regulatory Cost Impact Model for API.

The Gruy model is very sophisticated. It takes all onshore oil and gas wells in the U.S. and accumulates them into 37 State/areas divided into 44 oil well groups and 33 gas well groups based on common production characteristics and production rates. Production operating costs were compiled for each group using information obtained from the Department of Energy (DOE), certain confidential information from a survey of average production costs by region of 7 major oil companies and 13 independent operators, and Gruy's own confidential files that are based on over 30 years of oil and gas property evaluations. The Gruy model enables us to predict impacts such as the number of oil and gas wells shut in, loss of oil and gas reserves, and the loss of revenue and jobs that would result from various regulatory outcomes. The Gruy model predicts these outcomes for each State.

We are so confident of the integrity and validity of the model that we have invited independent scrutiny of the assumptions. Pursuant to a request from Congress, representatives of the Congressional Budget Office have met with Gruy Engineering and are in the process of validating the model.

### *E. Impact of a Subtitle D Nonhazardous Waste Scenario*

Using 1989 data, onshore domestic oil production had about 617,000 oil wells producing over 2.2 billion barrels of oil per year and 4,525 billion cubic feet of associated natural gas. There were about 260,000 gas wells producing approximately 11,410 billion cubic feet of natural gas and 105 million barrels of natural gas liquids per year.

The "Resource Conservation and Recovery Act Amendments of 1991" (S.976) does not require the regulation of E&P wastes. However, for input into the model, we assumed the Subtitle D industrial waste provisions of S.976 would be applied to E&P wastes. In this scenario, the Gruy model predicts petroleum industry activity would decline disastrously. At price assumptions of \$20 per barrel of oil and \$2 per thousand cubic feet of natural gas, the estimated impacts on the domestic industry would be:

- about 512,000 (over 80 percent) of existing oil wells would be shut in;
- about 200,000 (over 75 percent) of existing gas wells would be shut in;
- first year oil production would decrease about 440 million barrels, a 20 percent decrease;
- first year gas production would decrease about 2,000 billion cubic feet, a 13 percent decrease;

- about 40,000 workers in oil and natural gas extraction would lose their jobs and over 100,000 in other industries would lose their jobs
- ad valorem and severance tax revenues to the States would decrease about \$900 million the first year, a 13 percent reduction
- net revenues to royalty owners would be reduced by about \$2 billion the first year, a 17 percent reduction.

#### *F. Certain States Especially Impacted*

Certain States, due to the maturity of the oil fields and small production rates of the wells, would lose over 90 percent of their oil wells. Those States and the number of oil wells shut in include, Arkansas (5,489), Illinois (32,349), Indiana (7,549), Kansas (44,876), Kentucky (21,068), Missouri (807), New York (3,924), Ohio (30,194), Oklahoma (96,337), Pennsylvania (27,218), Virginia (50), West Virginia (15,837).

Several States would lose over 90 percent of their gas wells. These States and the number of wells lost include, Illinois (289), Indiana (1,295), Kentucky (10,768), Nevada (12), New York (5,251), North Dakota (66), Ohio (33,585), Pennsylvania (27,936), South Dakota (48), Tennessee (593), and West Virginia (34,908).

The Gruy model is the most complex and complete computer model of the economic and energy effects of E&P solid waste management designed to date. A complete copy of the Gruy Report is attached as Attachment I.

#### *G. States Are the Logical Regulators*

In 1988, EPA completed a thorough study of the E&P waste issue and concluded that:

Existing State and Federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. Regulatory gaps in the Clean Water Act and UIC program are already being addressed, and the remaining gaps in State and Federal regulatory programs can be effectively addressed by formulating requirements under Subtitle D of RCRA and by working with the States.<sup>1</sup>

The regulatory regime referred to by the EPA has a long history of effectiveness. When Congress enacted environmental legislation during the 1970's, it found that, in most cases, the formation of a Federal regulatory structure served as the primary model for States and localities which were only then beginning to deal with the need for regulation.

However, in the case of regulating E&P wastes, the opposite was true. The States have been active in this area for over 70 years; for example, Oklahoma began regulation in 1916, Texas in 1919. Initially, these regulations dealt with production rates to curb waste of the resource through overproduction and to protect the safety and well being of the citizens.

These State regulatory structures were modified over time to address a wide range of environmental issues. For example, one of the earliest environmental regulations was the Texas Railroad Commission's Rule 20 issued in 1919. It stated: "Fresh water is to be protected. Fresh water, whether above or below the surface, shall be protected from pollution whether in drilling or plugging." When EPA began to implement the Underground Injection Control Program (UIC) of the Safe Drinking Water Act, it discovered that many States, such as Texas, already had far more intricate and substantial UIC programs in place that dealt with the specific geologic and other technical aspects of each State. This extensive State regulatory framework exists in the same manner for other E&P wastes.

#### *H. Prior Congressional Consideration of E&P Wastes*

Congress recognized the consequences of over-regulation in the late seventies when additional Federal regulation of E&P wastes was first proposed. Realizing that there were serious questions about the applicability of the rigid statutory structure of Subtitle C to E&P wastes, and that extensive State and Federal regulations already existed for managing these wastes, Congress chose to continue the existing regulatory structure and study the implications of alternatives.

Congress amended RCRA to exempt E&P wastes from regulation under Subtitle C and directed EPA to determine whether E&P wastes should be regulated under Subtitle C. This decision was to be based on the results of an extensive analysis of the oil and gas exploration and production industry.

<sup>1</sup> EPA's 1988 "Regulatory Determination for Oil and Gas and Geothermal, Exploration and Production Wastes", page 4. The document is attached to this testimony as Attachment II.

### *I. EPA Recognizes States' Existing Regulatory Framework*

EPA conducted a comprehensive two year analysis and published its results in December 1987 in a report to Congress entitled "Management of Wastes from the Exploration, Development and Production of Crude Oil, Natural Gas, and Geothermal Energy". Then in June 1988, EPA issued its "Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes" (Attachment II).

In the 1988 Regulatory Determination, EPA stated:

Furthermore, since existing State and Federal programs already control oil and gas wastes in many waste management scenarios, EPA needs to impose only a limited number of additional controls targeted to fill the gaps in the existing programs. Subtitle C with its comprehensive "cradle to grave" management requirement, is not well suited to this type of gap-filling regulation.<sup>2</sup>

EPA further stated:

It is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the disruption and, in some cases, duplication of State authorities that administer programs through organizational structures tailored to the oil and gas industry.<sup>3</sup>

### *J. Industry Supports Improvements at the State Level*

The American Petroleum Institute (API) and Mid-Continent Oil and Gas Association generally concur with EPA's assessment of the status of existing regulations and the consequences of regulation under Subtitle C of RCRA. We endorse EPA's approach toward filling the gaps in existing State and Federal regulatory programs by working with the States to encourage changes in their regulations and enforcement procedures where necessary.

The petroleum industry favors State regulation of E&P wastes because we believe State governments are better equipped to assess and address their unique oil and gas operations and environmental conditions. At the same time, the process by which States formulate regulation differs little from the Federal process. Like the Federal process, the development of State regulations provides the public, State and Federal agencies, and industry ample opportunity to comment and testify at public hearings before proposed regulations become final.

Moreover, State regulations, along with industry practices and technology, are based on more than a century of experience that includes the drilling of over three million wells. This is expertise that the Federal Government will never be able to acquire. It is unlikely that a Federal program will ever be staffed or funded at a level that can effectively deal with the diversity of needs that are evident in the 33 producing States.

### *K. States Improve Regulations*

The States have demonstrated an ongoing commitment to develop regulations designed to protect the environment in their jurisdiction. For example:

- Texas updated Rule 13 in 1983 to contain specific cementing criteria to ensure protection of groundwater. A State well plugging fund was established in 1983. Rule 8 was revised in 1984 to contain a "no pit order" requiring that (with few exceptions) production pits can only be constructed after public notice and a hearing. Texas recently passed legislation to establish oilfield cleanup funds with the revenues to come from wellhead taxes and increased fees.

- Oklahoma has passed oilfield environmental regulations similar to Texas'. Between 1987 and 1991, the Oklahoma Corporation Commission wrote or revised over 30 rules on E&P environmental regulation.

- West Virginia adopted a permit requirement for drilling mud reserve pits that requires detailed layout, construction, closure and remediation plans.

- Montana has significantly rewritten its E&P environmental rules to include fencing and screening of some pits, reserve pit closure requirements, reserve pit liners when salt or oil based muds are used, and disposal requirements for drilling muds.

- Louisiana established Order 29-B, its environmental regulation, in 1943. The regulation first dealt with environmental control of E&P underground injection wells. Between 1943 and 1980, Order 29-B was amended over 30 times. Since 1985,

<sup>2</sup> Ibid., pg 5

<sup>3</sup> Ibid., pg 5



major regulatory improvements have been established in the areas of commercial facilities, onsite disposal, abandoned oilfield waste site law and coastal zone pits.

In addition, the Interstate Oil and Gas Compact Commission (IOGCC), an organization of oil and gas producing States, with funding assistance from EPA and input from both environmental and industry, has developed a model State oil and gas E&P environmental regulatory program that was published in December, 1990. The IOGCC/EPA report contains criteria for setting performance standards and design specifications for disposal facilities and for disposal practices such as landspreading based on site specific or regional differences in geology, hydrology, climate, and waste characteristics.

Oil and gas producing States are reviewing their E&P environmental regulatory programs against the IOGCC/EPA Report. Some—including Wyoming, Alabama, New Mexico, Montana, Oklahoma, and Louisiana—have already taken steps to implement the IOGCC criteria. In addition, the IOGCC/EPA Report recommended a State peer review process be conducted by regulators, environmentalists, and industry. Wyoming was the first State selected for this peer review. The review is complete and the report is scheduled for release in October, 1991. Pennsylvania has volunteered to be the next State for review.

It is clear that State regulation of the E&P industry continues to work well and is fully capable of responding to the environmental needs of the future. The system meets the fundamental test of any effective regulatory program: As new issues develop, the regulatory system assesses them and develops the necessary changes. This should be the criteria that Congress uses to determine whether it should impose additional requirements. No program, Federal or State, will be perfect. But, it must be able to change when change is necessary.

## II. RCRA SUBTITLE C OR SUBTITLE D?

One problem with the 1988 EPA Regulatory Determination is that it has tended to focus discussion on arcane arguments over whether all or part of the E&P wastes should be regulated under RCRA Subtitle C or RCRA Subtitle D. We believe these discussions miss the key issue.

### A. Key Issue—Effective Management

Rather than debate the merits of regulation under Subtitle C or D, we suggest that the key issue is the effective management of E&P wastes in a manner that protects human health and the environment and is consistent with the need to assure adequate production of domestic oil and gas.

### B. Unique Nature of Oil and Gas Production

Neither Subtitle C nor a more prescriptive Subtitle D of RCRA are appropriate to deal with the unique and complex nature of oil and gas production. Existing State and Federal programs are designed for that purpose. When EPA evaluated Subtitle C as a regulatory structure for E&P wastes, it found several serious problems:

First, Subtitle C contains an unusually large number of highly detailed statutory requirements. It offers little flexibility to take into account the varying geological, climatological, geographic, and other differences characteristic of oil and gas drilling and production sites across the country. At the same time, it does not provide the Agency with the flexibility to consider costs when applying these requirements to oil and gas wastes. Consequently, EPA would not be able to craft a regulatory program to reduce or eliminate the serious economic impacts that it has predicted. Furthermore, since existing State and Federal programs already control oil and gas wastes in many waste management scenarios, EPA needs to impose only a limited number of additional controls targeted to fill the gaps in the existing programs. Subtitle C, with its comprehensive "cradle to grave" management requirement, is not well suited to this type of gap-filling regulation.<sup>4</sup>

The waste scenarios addressed by EPA when it promulgated the Subtitle C regulations generally focused on industries that were disposing of highly toxic wastes in poorly designed private and municipal landfills. The Subtitle C structure was designed for toxic waste characteristic of those found in some of these centrally located landfills. It set design standards for hazardous waste management facilities and established a "cradle to grave" structure for the management of hazardous wastes. These Subtitle C hazardous waste management facilities would be sited in suitable

<sup>4</sup> Ibid., pg 4

areas, designed to receive toxic wastes over a long period of time, to treat, store and dispose of these wastes, to be closed after their useful life and monitored for many years thereafter. The Subtitle C structure specifies requirements based on strict adherence to these criteria with no room for addressing site specific requirements.

Oil and gas E&P operations, however, do not fit this mold. E&P operations generate high volume/low toxicity wastes. These wastes have been effectively managed under State regulatory programs for decades. Unlike the centralized operations of RCRA Subtitle C facilities where wastes are transported to a central waste management facility, E&P activities take place at 1.25 million sites scattered nationwide. The scattered nature of E&P facilities, the wide range of ecological conditions found at these sites, and low toxicity make the prescriptive Subtitle C regulation inappropriate for E&P wastes.

#### *C. A More Prescriptive Subtitle D is Inappropriate*

Similarly, stringent nationwide Subtitle D standards are also inappropriate for E&P wastes. However, legislative proposals introduced during this and past Congresses would create a new, more prescriptive structure for Subtitle D. These proposals are largely designed to address municipal and industrial landfill issues, because these type landfills are the dominant type of Subtitle D facility. The narrower Subtitle D—one that increasingly resembles the prescriptive Subtitle C framework that EPA warned about in its Regulatory Determination—is equally inappropriate for E&P wastes.

#### *D. Existing Programs Provide a Suitable Framework*

While neither Subtitle C nor a revised Subtitle D present an appropriate structure to deal with E&P wastes, existing State and Federal programs are well suited to this purpose and are functioning well. These programs were designed to deal with the diverse conditions associated with E&P operations and have been in place for many years. Federal programs under the Clean Water Act and the UIC program of the Safe Drinking Water Act rely on site specific situations and on the continued implementation of pre-existing State regulatory programs. For other E&P wastes, State programs have been developed over the years to respond to varied regulatory requirements. Texas, for example, must regulate in coastal areas, wooded upland areas, and arid upland areas. Each area presents different waste management issues based on the topography, geography, climate, and hydrogeologic situations. Other factors unique to an area include the nature of the oil, the produced water, proximity and constituency of human and animal populations, and availability of transportation, storage, recycling, waste treatment, and disposal facilities.

In considering how best to manage oil and gas production wastes, we strongly believe that the most logical approach is to utilize the existing regulatory framework, which has evolved and been designed to assure environmental protection consistent with the need to develop domestic oil and gas supplies. Any inadequacies or gaps in this framework should continue to be addressed at the State level.

#### *E. IOGCC and Industry Improvements*

Since EPA's 1988 Regulatory Determination, as previously noted, the IOGCC has developed a report on the programs in oil producing States and a model regulatory structure for States to use in evaluating their programs. Similarly, API has developed the "API Environmental Guidance Document—Onshore Waste Management in Exploration and Production Operations" (Attachment III) for use by oil and gas producers. API has developed a training program based on this document and, along with the Gas Research Institute, is co-sponsoring training sessions for oil and gas producers across the country.

These efforts demonstrate an ongoing commitment to respond to emerging environmental issues at E&P operating sites. The existing system is fully capable of responding to the needs for increased environmental controls. But, unlike the options available under RCRA Subtitle C, these responses can be tailored to the diverse nature of oil and gas production while still protecting the environment.

### III. DESCRIPTION OF INDUSTRY

The following are some of the basic facts and processes that give our industry its special character and demonstrate the need for flexibility in regulation.

#### *A. Diversity of Oil and Gas Production*

Oil and gas is produced in 33 States across the nation. Onshore there are approximately 617,000 oil wells and 260,000 gas wells served by about 219,000 tank batteries and 168,000 injection wells. There are about 13,000 collection and injection facilities where fluids or gas are processed and injected into producing oil and gas zones to

enhance oil recovery. There are approximately 8,000 gas compressor and oil pumping stations. The total is about 1.25 million onshore sites across the nation. Of the 617,000 producing oil wells in the U.S., about 450,000 are stripper wells, which produce an average of 2.3 barrels of oil per day (BOPD). Stripper wells account for about 14 percent of the total U.S. oil production.<sup>5</sup>

### *B. Where Does Oil and Gas Come From?*

Oil and gas deposits were formed in the coastal and shallow areas of ancient seas that covered the current continental U.S. Continual burial of plants and animals by sediments and the salty seas, the sinking of these sediments and the subsequent high temperatures, high pressures, and airless environment that prevented oxidation, caused the oil and gas to form. The oil and gas migrated from the sedimentary rocks where they were formed to more porous and permeable rock. Over millions of years, this oil, gas, and saltwater accumulated in geological traps to form reservoirs.

We find potential for oil and gas deposits in those areas where the ancient seas once had a coast line or where shallow seas once existed. Ancient seas existed across the entire Gulf Coast from Florida to Texas, north through the Great Plains and Rocky Mountains, through the Canadian Rockies, and into Alaska. Drilling and production of oil and gas takes the industry to all parts of the U.S. where the potential for these deposits exists.

The wide variation of production operations and environmental settings can best be explained by an example comparing the two largest oil fields ever discovered in the U.S.—the giant Prudhoe Bay Field near Deadhorse on the north coast of Alaska and the East Texas Field, parts of which are located under the cities of Longview and Kilgore, Texas. Prudhoe Bay, discovered in 1969, is located in a harsh, arctic environment. Winter nights are long with sub-zero temperatures common. The soil is permanently frozen (permafrost) to a depth of about 2,000 feet. The oil is produced from relatively few wells. As large as Alaska is—586,412 square miles—the entire State has only about 1,300 oil wells.

Compare these conditions and operations to those in the East Texas Field. Discovered in 1930, the East Texas Field was the largest oil field ever discovered in the Lower 48. It covered an area of 204 square miles when first discovered and has had over 31,000 wells drilled in this 204 square miles. Oil wells are still located in backyards of neighborhoods in Kilgore and Longview. Most require the use of a beam pumping unit to lift the oil to the production facilities, refer to the "API Introduction to Oil and Gas Production" (Attachment IV) for a picture of a beam pumping unit. The groundwater is used for drinking water and is shallow—most freshwater wells are from 100 to 300 feet in depth. The area is hot and humid for 9 months of the year and has a very mild winter. It is heavily wooded with pine and hardwoods and the lakes abound with some of the finest fishing in the U.S.

Operations that are protective of human health and the environment in one of these ecological settings may have no application or need in the other. And conversely, an environmentally sound operational practice in one may be unacceptable in the other. Consequently, each State has developed different E&P environmental regulatory programs that are protective of their respective environments.

### *C. Drilling Operations*

In 1985, approximately 72,500 oil and gas wells were drilled onshore in the U.S. By 1989, annual drilling activity had fallen to approximately 29,500 wells.

Drilling a well consists of:

- obtaining a "lease"
- selecting and surveying a site to comply with State spacing regulations that prohibit waste of the resource
- obtaining the drilling and/or construction permits
- construction of the drilling site, including the access roads, reserve pits, fresh water supply, and foundation for the rig, and
- drilling the well.

#### *1. Permits*

The permits required for drilling a well may be multiple. Permits are required by State agencies. Municipalities, Native American agencies, the Forest Service, the Bureau of Land Management and other Federal and State agencies may also be involved. The permits issued may require a detailed construction and restoration plan. The construction plan may contain pit locations and construction detail, for example, as required by the State of West Virginia.

<sup>5</sup> A stripper well is defined as a well producing 10 barrels oil per day or less.

## 2. Drill Site Construction

Once the drilling permits have been issued, a level surface and adequate foundation are built for the drilling rig. Generally, a "reserve" pit is constructed to hold waste drilling mud and the rock and clay cuttings that are removed as the hole is drilled; a freshwater pit may also be dug to hold a small reservoir of freshwater for mixing of "muds" to drill the well.

## 3. Protecting Underground Sources of Drinking Water

Once the site is constructed and the drilling rig is in place, drilling commences. When the depth of the "hole" is below the lowermost fresh water zone, a string of pipe is run to "case" the wellbore. This pipe is called the casing string and this first casing string is called the "surface casing" or "surface pipe". Cement is circulated between the surface pipe and wellbore up to the ground surface to seal off and protect the fresh water zones. The requirement for the sealing of the water zones with casing and cement is regulated by the State and Federal agencies. Other casing strings are run when the well reaches total depth to seal off the producing formation and keep the hole (wellbore) open. Again, cement is circulated between the pipe and wellbore, this time to seal and isolate zones that may be productive of oil and gas, or which may contain saltwater.

## 4. Completing a Well to Produce

Once the well is drilled, the drilling rig is moved off location. The reserve pit containing waste drilling muds and cuttings from the wellbore is left to settle and allow as much water as possible to evaporate. Most States have regulations governing how long a reserve pit may be left open. The remaining water is removed, the pit back-filled, and the site revegetated, usually within 2 to 4 months after drilling is completed.

Next, a portable rig with a derrick, called a "workover" rig, is moved in to finish or "complete" the well. At this point the well casing is perforated in the geologic formation (called zone) that is thought to contain oil and/or gas. The zone may have to be stimulated, that is "acidized" or "hydraulically fractured" to provide a better pathway for oil and gas to flow to the wellbore.

Hydraulic fracturing consists of pumping fluid down the well under enough pressure to "fracture" or split the rock formation containing the oil and gas. Once opened, sand or some other propping agent such as walnut hulls is pumped into the "fracture" as a slurry to "prop" it open, thus creating a pathway for flow. The slurry of sand is made by mixing a "gel" such as guar gum (a natural gum produced by plants) with saltwater to make it viscous and able to suspend and "carry" the sand.

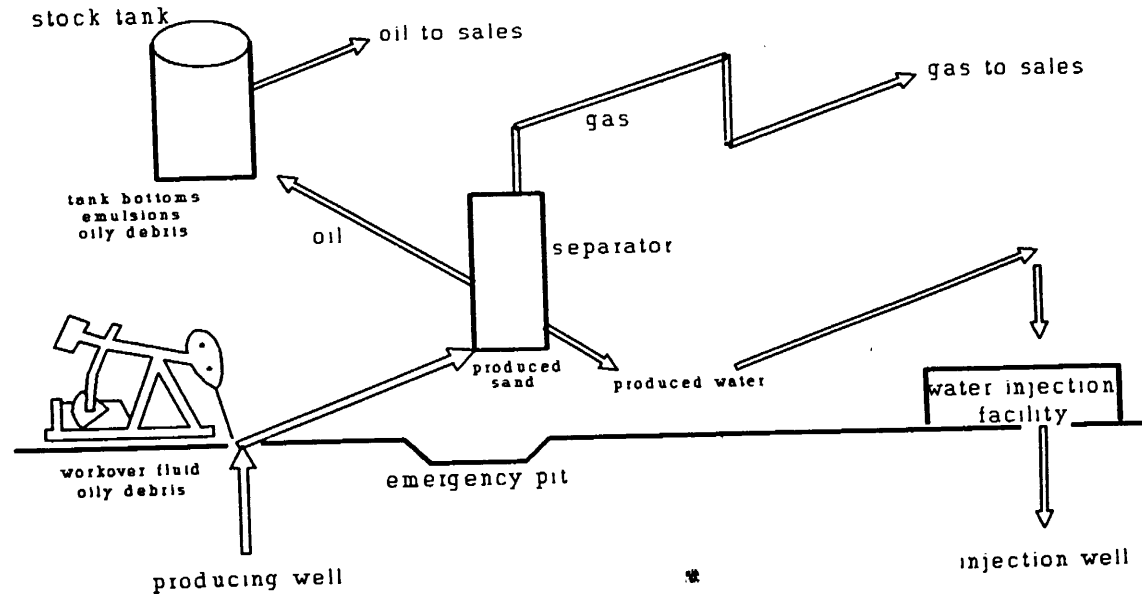
Acidizing to stimulate a well is done when the formation is composed of an acid soluble material such as limestone. The acid creates a flow pathway by dissolving the limestone formation until all the acid is consumed. When hydrochloric acid reacts with limestone, it is neutralized, creating a salt (calcium chloride), carbon dioxide, and water. The salt is in solution in the water and flows back to the surface where it is collected for proper disposal.

## D. Construction of Production Facilities

Once the well is "completed" and ready to produce, a production facility is built. A separator is installed to separate the gas, oil, and water. The produced oil is piped from the separator to a heater treater where any oil/water/solids emulsions are treated to separate oil from the water and solids. The water and solids must be removed in order to sell the oil. The separated oil is piped to oil storage tanks and the produced water is transferred to a produced water storage tank. (See Figure 1). The separated gas may require treating to remove water vapor or hydrogen sulfide gas before being sold. If so, it is sent to a glycol treater to remove water or an amine (or similar) treater to remove the hydrogen sulfide before it is sent to gas sales. The gas treating processes described here may be accomplished on site or at a central treating facility.

For more information on oil and gas production and production facilities, refer to the "API Introduction to Oil and Gas Production" (Attachment IV).

## Associated Waste Generation



**FIGURE 1**

### *E. Waste Descriptions and Volumes*

Drilling for and production of oil and natural gas results in four types of wastes: drilling "muds" and cuttings, produced waters, associated wastes, and some industrial wastes. The volumes cited below are based on a 1985 API Production Waste Survey.

#### *1. Produced Waters*

Water occurs naturally in geological formations with oil and natural gas. When oil comes out of the ground, so does water—an average of 6 to 8 barrels of water are produced with each barrel of oil. During the life of an oil well, the volume of water produced generally increases with time. The water varies in quality but usually contains salt or other minerals. About 20.7 billion barrels of water are produced annually, representing 98 percent of the total U.S. E&P waste stream. Volumes of produced water (in billions of barrels) is broken down as follows:

Recycled for enhanced oil recovery .....	13.0
Disposed of by injection .....	5.8
Disposed of under Federal NPDES permits.....	1.2
Disposed of by percolation (primarily California).....	0.7

About 7.7 billion barrels (37 percent) of the 20.7 billion barrels are considered waste for disposal. The remaining 13 billion barrels (63 percent) are beneficially reused and recycled in enhanced oil recovery operations (EOR). This produced water is injected into the reservoirs to maintain pressure and push the oil to other producing wells. Without this technology, billions of barrels of crude oil would not have been produced.

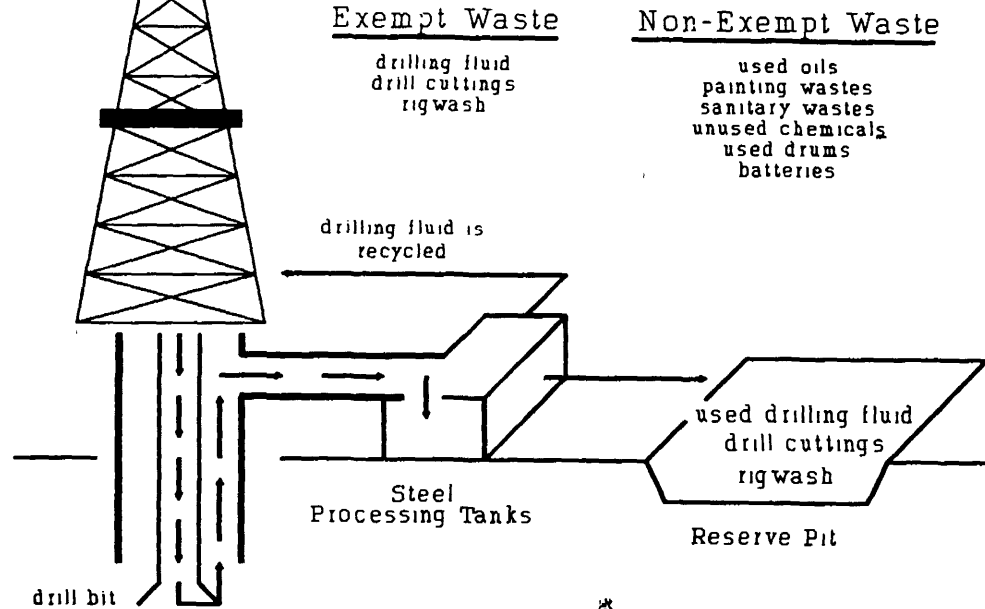
Over 90 percent of produced waters are injected underground through some 168,000 permitted injection wells. Underground injection is regulated under the Safe Drinking Water Act (SDWA) either directly by EPA or by EPA approved State programs that contain the minimum requirements outlined in the Underground Injection Control (UIC) program of the SDWA. Some waters are discharged into coastal and offshore areas under Clean Water Act regulations in accordance with National Pollutant Discharge Elimination System (NPDES) permits. In some cases, low salinity waters are beneficially used for irrigation and for livestock drinking water, especially in arid areas. About 0.7 billion barrels are disposed of by percolation in areas where underground sources of drinking water are not present. This practice occurs primarily in California.

#### *2. Drilling Muds*

When oil and natural gas wells are drilled, fluids are circulated through the drill pipe, through and around the drill bit, and up the hole. (See Figure 2). These fluids are known as "muds". Drilling muds are water or oil based mixtures of clays and weighting materials, with small amounts of various additives. The purpose of drilling muds is to provide safety for the workers by controlling pressure in the well, remove rock cuttings produced by the drill bit, lubricate and cool the bit, and seal the sides of the wellbore. In 1985, operators generated and disposed of 361 million barrels of drilling muds, cuttings and other related wastes, approximately 1.6 percent of the total E&P waste stream.

Used drilling muds and rock cuttings are usually deposited in earthen walled reserve pits. These reserve pits are closed according to State regulations and landowner agreements, usually within 2 to 4 months after drilling is completed.

## Drilling Waste Generation



**FIGURE 2**

### *a) Water-Based Drilling Muds*

Approximately 94 percent of muds are water-based and are usually disposed of onsite. Water in the reserve pit is allowed to evaporate or is removed. Waste mud and cuttings may be landspread, buried, or transported offsite for disposal in accordance with State regulations. The waste mud and cuttings represent about 20 percent of the original volume of waste in the reserve pit. The pit is backfilled and revegetated. In some cases, water-based muds are recycled for later use or used for plugging and abandoning wells.

### *b) Oil-Based Drilling Muds*

Oil-based muds are expensive and are almost always returned to the vendor or a reclaimer for recycling. Oil-based muds are used when water-sensitive formations (such as saltbeds) are drilled. If a freshwater mud were used to drill a saltbed, the water would dissolve the salt and cause huge caverns to be washed out, bringing large volumes of salt to the surface and causing hole instability and casing cementing problems. Oil-based muds are also required when high temperatures are encountered which would degrade water-based muds. Oil-based muds may be required when pipe sticking occurs or when necessary to protect against severe drill string corrosion (destruction of the pipe being used to drill the well).

As noted before, most oil-based mud is recycled but oil-based mud cuttings must be disposed of. These wastes may be transported offsite to a commercial waste management facility or managed onsite by landspreading or used for roadbase if applied on a percent weight basis using criteria such as that found in the API Environmental Guidance Document (Attachment III). These criteria are that the material not be ignitable and have a mixed density and metals content consistent with approved road oil mixes. Applications are at loading rates that minimize the possibility of surface runoff and, in some States, must be reviewed with landowners and appropriate State and local regulatory agencies. Some States require permits for land application of these wastes.

### *3. Associated Wastes*

Exploration and production operations also generate about 12 million barrels annually of other wastes including:

- oily debris (1.2 million barrels)
- produced sand (1.3 million barrels)
- tank bottoms or vessel solids (1.5 million barrels)
- spent workover fluids (5.6 million barrels)

The wastes associated with production of oil and gas are often naturally occurring materials such as the oily sands, clays, water, and paraffins accumulated in the bottoms of oil and gas separators, crude oil stock tanks, and other vessels. Some of the wastes contain treating chemicals that come in contact with the oil and gas streams. These may include glycol similar to that in the radiators of automobiles, corrosion inhibitors and scale inhibitors. Associated wastes are sold to reclaimers or disposed of in accordance with State regulations and industry guidelines by roadspreading, landspreading, or injection underground into Class II wells.<sup>6</sup>

### *4. Industrial Wastes*

Industrial wastes generated in the production of oil and gas that are not unique to the industry and are not included in the associated waste category include construction debris, packaging material, empty drums, used lube oil, pipe thread protectors, and scrap metal. Most of these are sold to reclaimers, recycled, or disposed of according to State and Federal regulations. If hazardous under RCRA, they must be managed as Subtitle C hazardous waste.

## **IV. STATE AND FEDERAL PROGRAMS FOR E&P WASTE MANAGEMENT**

The management and disposal of E&P wastes are regulated under State and Federal statutes designed to protect human health and the environment. State laws form the framework of this regulatory system and a list of applicable State laws may be found in the "EPA/IOGCC Study of State Regulation of Oil and Gas E&P Wastes". Federal laws and regulations supplement this host of State statutes. Lease agreements may also contain provisions and restrictions set by the private landowner that take into consideration special environmental needs of the property.

<sup>6</sup> The Underground Injection Control Program of the Safe Drinking Water Act divides wells into different classes for purposes of regulation. Class II is the class covering underground injection of brine or other fluids related to oil and gas production.



### *A. State Programs*

A typical State program regulating the management of E&P wastes will contain many elements including:

1. Statutory authority which adequately details the powers and duties of the regulatory body, including enforcement;
2. Statutory authority to promulgate appropriate rules and regulations;
3. Statutes and implementing regulations which adequately define necessary terminology;
4. Provisions to adequately fund and staff the program;
5. Mechanisms for coordination among the public, government agencies and regulated industry; and
6. Technical criteria for E&P waste management practices that address pits, land applications, centralized and commercial facilities.

The States generally establish and implement specific performance standards and design specifications based on site-specific or regional differences in geology, hydrology, climate, waste characteristics, and method of operation, which may impact on the manner in which oil and gas exploration, development and production is performed. State oil and gas programs do, and should, vary from State to State and within portions of a State.

### *B. Nationwide Standards Are Impractical*

The wide range of environmental settings in which oil and gas are produced makes setting minimum nationwide E&P waste standards impractical. For example, minimum standards for protecting groundwater based on the deep groundwater levels in New Mexico would be unacceptable in Michigan where groundwater levels may be very near the surface. And the groundwater protection standards for the deep water table of New Mexico would not make sense for some areas of southern California where no groundwater exists. Similarly, discharge of high salinity produced water into the clear fishing streams of northeastern Oklahoma would be unacceptable, but discharge of low salinity produced water into an intermittent stream in the deserts of Wyoming for livestock watering would not only be acceptable but would be a preferred practice.

### *C. Federal Regulation of E&P Wastes*

Major Federal programs for regulating E&P wastes, usually administered by the States, include:

#### *1. The Safe Drinking Water Act*

The Safe Drinking Water Act authorizes EPA to administer the Underground Injection Control (UIC) program, which establishes minimum requirements for State, tribal, and Federal injection activities in a manner that protects underground sources of drinking water (USDW). The UIC program is administered either directly by EPA or by the States under programs approved by EPA. The first State to achieve primacy was Oklahoma in 1981. Since then, 35 States have achieved primacy for the Class II UIC program, which regulates E&P operations, including injection of all produced water for disposal or to increase oil recovery from producing zones (secondary or enhanced recovery).

Some of the major Class II UIC program requirements include:

- demonstration of mechanical integrity of injection wells;
- casing and cementing of injection wells to prevent movement of fluid into drinking water sources;
- maintenance of a maximum operating pressure to avoid fracturing of the confining zones;
- mechanical integrity testing at least every 5 years;
- permits;
- monitoring and reporting of injection pressure and volume; and
- reporting of noncompliance, ownership changes, well rework, mechanical integrity testing, and plug and abandonment.

For a State or tribal UIC program to be approved by EPA for primary regulatory authority, the general elements listed above or their equivalents must be in the program.

#### *2. The Clean Water Act*

The Federal Clean Water Act (CWA) has several requirements applicable to oil and gas operations. The National Pollutant Discharge Elimination System (NPDES) permit program controls discharges of waste waters into waters of the U.S. The Spill Prevention Control and Countermeasure (SPCC) program of the CWA has requirements for spill prevention, containment, and reporting.

The NPDES portion of the Clean Water Act establishes a permitting system and control technology for all discharges, including intermittent streams and wetlands. EPA has determined that the control for onshore E&P operations is "no discharge". Exceptions to the "no discharge" limitation are separate rules for beneficial agricultural or wildlife use. Such beneficial uses are employed in areas, primarily in California and Wyoming, where the produced water has a low salinity. In some cases, these waters are the sole water sources for farming, cattle, or wildlife use. There are also exemptions for marginal (stripper) wells—wells that produce low volumes of oil. These discharges require NPDES permits.

Recently proposed EPA regulations will restrict or prohibit discharges to coastal waters. In contrast, the NPDES permits for all offshore discharges contain various discharge limitations, including oil and grease limits for produced water and toxicity limits for drilling muds and cuttings.

The Clean Water Act also requires SPCC plans for all E&P facilities where a spill could reach waters of the United States. Plan elements generally include providing secondary containment to contain the volume of the largest tank in the event of a tank spill, contingency plans, and oil spill reporting mechanisms. SPCC plans are required to be certified by a registered professional engineer.

At this time, EPA is preparing revisions to the SPCC program that will lead to more stringent SPCC plan requirements.

### *3. Resource Conservation and Recovery Act*

As noted earlier, the oil and gas E&P industry does not have a "blanket exemption" from RCRA. Only specified wastes are currently exempt from regulation under Subtitle C. The exempt wastes are drilling muds and cuttings, produced water, and certain wastes uniquely "associated" with the production of oil and gas. Those wastes not unique to E&P operations fall under the RCRA permitting and handling requirements in the same manner as all other industrial wastes of a similar nature. For example, spent solvents, paint wastes, used crankcase and lubrication oil, used engine oil filters, empty chemical drums, unused well stimulation fluids and construction debris, which may be generated at E&P sites, are all subject to the requirements of RCRA and if hazardous, must be managed under Subtitle C in the same manner as all other industrial hazardous wastes.

RCRA Subtitle D leaves to the States the regulation of nonhazardous wastes. These include those oil and gas E&P wastes specifically exempted from Subtitle C regulation: produced water, drilling muds, and associated wastes. Such regulation may include permitting for wells, pits and other facilities, and regulations for the management and disposal of drilling muds and cuttings.

## **V. THE EPA STUDY**

### *A. Congress' Instructions to EPA*

In the 1980 Amendments to RCRA Congress also directed EPA to study exploration and production wastes and recommend appropriate regulatory action to Congress.

The EPA followed strict legislative guidelines in assessing the production waste issue. The 1988 Determination states:

Section 3001(b)(2)(A) of the Solid Waste Disposal Act of 1980 (Pub. L. 96-480), which amended the Resource Conservation and Recovery Act of 1976 (RCRA), prohibits EPA from regulating under RCRA Subtitle C "drilling fluids, produced waters, and other wastes associated with exploration, development, or production of crude oil or natural gas or geothermal energy" until at least 6 months after the Agency completes and submits to Congress a comprehensive study required by Section 8002(m) (also added by the 1980 amendments). Section 8002(m) directs EPA to conduct:

(A) detailed and comprehensive study and submit a report on the adverse effects, if any, of drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas or geothermal energy on human health and the environment, including, but not limited to, the effects of such wastes on humans, water, air, health, welfare, and natural resources and on the adequacy of means and measures currently employed by the oil and gas and geothermal energy drilling and production industry, Government agencies, and others to dispose of and utilize such wastes to prevent or substantially mitigate such adverse effects.

The study was to include an analysis of:

1. The sources and volumes of discarded material generated per year from such wastes;
2. Present disposal practices;
3. Potential danger to human health and the environment from surface runoff or leachate;
4. Documented cases that prove or have caused danger to human health and the environment from surface runoff or leachate;
5. Alternatives to current disposal methods;
6. The cost of such alternatives; and
7. The impact of those alternatives on the exploration for, and development and production of, crude oil and natural gas or geothermal energy.<sup>7</sup>

#### *B. EPA's Conclusion*

EPA conducted an extensive two year study and submitted a report to Congress on E&P wastes on December 22, 1987. On the basis of that study and comments received at public hearings held across the country in the spring of 1988, EPA decided on June 30, 1988 not to recommend regulation of these wastes as hazardous under Subtitle C of RCRA. EPA concluded that the wastes should retain the exemption from Subtitle C and continue to be regulated under existing programs. To the extent that gaps exist in these programs, EPA recommended filling the gaps by strengthening the existing programs. EPA further concluded that the wastes do not pose a significant threat to human health and the environment when properly managed, and that for the most part, were adequately regulated by the States. In general, EPA found that additional regulation under Subtitle C was:

- Unnecessary because a large body of State and Federal laws already cover these wastes and because the Safe Drinking Water Act and the Clean Water Act "provide sufficient legal authority to handle most problems" these wastes pose.
- Impractical because administrative procedures and lengthy application processes for hazardous waste permits for drilling reserve pits would add hundreds of thousands of waste sites for regulatory tracking, with no real environmental benefit.
- Harmful to petroleum exploration and production; it could cause U.S. oil production to decline 18 percent by the year 2000 and 29 percent by 2010.
- Costly; it could cost consumers as much as \$6 billion annually.
- Severely strain existing Subtitle C treatment and disposal capacity if the requirements were imposed.

In the 1988 Regulatory Determination, EPA reported the following:

In completing the Report to Congress and this determination, EPA gathered and evaluated information on all of the issues raised in Section 8002(m), including three key factors pertaining to wastes from the exploration, development, and production of oil, gas, and geothermal energy:

- (1) the characteristics, management practices, and resulting impacts of these wastes on human health and the environment;
- (2) the adequacy of existing State and Federal regulatory programs; and
- (3) the economic impacts of any additional regulatory controls on industry.

In considering the first factor, EPA found that a wide variety of management practices are utilized for these wastes, and that many alternatives to these current practices are not feasible or applicable at individual sites. EPA found that oil, gas, and geothermal wastes originate in very diverse ecologic settings and contain a wide variety of hazardous constituents. EPA documented 62 damage cases resulting from the management of these wastes, but found that many of these were in violation of existing State and Federal requirements.

As to the second factor, EPA found that existing State and Federal regulations are generally adequate to control the management of oil and gas wastes. Certain regulatory gaps do exist, however, and enforcement of existing regulations in some States is inadequate. For example, some States have insufficient controls on the use of landfarming, roadspraying, pit construction and surface water discharge practices. Some States lack sufficient controls for central disposal and treatment facilities and for associated wastes. The existing Federal standards under Subtitle D of RCRA provide general environmental performance standards for disposal of solid wastes, including oil, gas, and geothermal wastes, but these standards do not fully address the specific concerns posed by oil and gas wastes. Nevertheless,

<sup>7</sup> *Ibid.*, pg 6

EPA has authority under Subtitle D to promulgate more tailored criteria. In addition, the authorities available under the Clean Water Act (CWA) or Safe Drinking Water Act (SDWA) can be more broadly utilized, and efforts are already underway to fill gaps under these programs.

EPA's review of the third factor found that imposition of Subtitle C regulations for all oil and gas wastes could subject billions of barrels of waste to regulation under Subtitle C as hazardous wastes and would cause a severe economic impact on the industry and on oil and gas production in the U.S. Additionally, because a large part of these wastes is managed in off-site commercial facilities, removal of the exemption could cause severe short-term strains on the capacity of Subtitle C Treatment, Storage, and Disposal Facilities (TSDFs), and a significant increase in the Subtitle C permitting burden for State and Federal hazardous waste programs.

EPA went on further to say:

As explained in more detail in Section IV of this notice, EPA found that regulation under Subtitle C presents several serious problems. First, Subtitle C contains an unusually large number of highly detailed statutory requirements. It offers little flexibility to take into account the varying geological, climatological, geographic, and other differences characteristic of oil and gas drilling and production sites across the country. At the same time, it does not provide the Agency with the flexibility to consider costs when applying these requirements to oil and gas wastes. Consequently, EPA would not be able to craft a regulatory program to reduce or eliminate the serious economic impacts that it has predicted. Furthermore, since existing State and Federal programs already control oil and gas wastes in many waste management scenarios, EPA needs to impose only a limited number of additional controls targeted to fill the gaps in the existing programs. Subtitle C, with its comprehensive "cradle to grave" management requirement, is not well suited to this type of gap-filling regulation. EPA concluded that it would be more efficient and appropriate to fill the gaps by strengthening regulations under the Clean Water Act and UIC programs and promulgating the remaining rules needed under RCRA under the less prescriptive statutory authorities set out in Subtitle D. This narrower approach would also reduce disruption of existing State and Federal control programs.

And finally, the EPA reached the following conclusions:

Thus, the Agency has decided not to promulgate regulations under Subtitle C for wastes generated by the exploration, development, and production of crude oil, natural gas, and geothermal energy for the following reasons:

(1) Subtitle C does not provide sufficient flexibility to consider costs and avoid the serious economic impacts that regulation would create for the industry's exploration and production operations;

(2) Existing State and Federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. Regulatory gaps in the Clean Water Act and UIC program are already being addressed, and the remaining gaps in State and Federal regulatory programs can be effectively addressed by formulating requirements under Subtitle D of RCRA and by working with the States;

(3) Permitting delays would hinder new facilities, disrupting the search for new oil and gas deposits;

(4) Subtitle C regulation of these wastes could severely strain existing Subtitle C facility capacity;

(5) It is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the disruption and, in some cases, duplication of State authorities that administer programs through organizational structures tailored to the oil and gas industry; and

(6) It is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the permitting burden that the regulatory agencies would incur if even a small percentage of these sites were considered Treatment, Storage and Disposal Facilities (TSDFs).

The Agency planned a three-pronged approach toward filling the gaps in existing State and Federal regulatory programs by:

- (1) Improving Federal programs under existing authorities in Subtitle D of RCRA, the Clean Water Act, and Safe Drinking Water Act;
- (2) Working with States to encourage changes in their regulations and enforcement to improve some programs; and
- (3) Working with the Congress to develop any additional statutory authority that may be required.<sup>6</sup>

#### *C. Industry Supports Improvements at the State Level*

As stated earlier, API and Mid-Continent generally agree with EPA's assessment that, to the extent that E&P waste regulatory gaps exist, they should be filled by improving existing programs. We believe that a series of factors all combine to make additional prescriptive Subtitle C type regulation inappropriate and unnecessary. This series of factors includes:

- the diversity of ecological settings where E&P operations occur, the diversity of climatologic, geographic, and hydrologic factors;
- the diversity of production operations in the industry;
- the existing State regulatory structures;
- the inflexibility of the Subtitle C regulatory structure; and
- the disastrous economic effect that prescriptive Subtitle C type regulation could have on domestic energy production and future energy prospects.

The petroleum industry agrees that the EPA should work with the States to improve current regulatory structures. We believe the States have experienced staff in place, decades of experience regulating oil and gas industry, and specific knowledge to apply regulations sensibly to the operations in the particular ecological setting where the E&P operations occur.

#### *D. EPA And API Analyzed E&P Wastes*

As noted above, EPA reached its conclusions through a process of extensive analysis. To fulfill the 1980 Congressional mandate to study the potential risks E&P wastes might pose to human health and the environment, EPA collected samples of E&P wastes and analyzed them for hazardous constituents.

Among the tools used by EPA to analyze E&P wastes was the proposed Toxicity Characteristic (TC) and its accompanying test, the Toxicity Characteristic Leaching Procedure (TCLP). The EPA has established limits on waste constituents that if exceeded, determine that a waste is characteristically hazardous with regard to toxicity. A waste can also be characteristically hazardous for corrosivity, reactivity, or ignitability. The purpose of the TCLP was to simulate the leaching of waste constituents from the environmental conditions found in a landfill (acidic, high volume, covered so that no air is present) into groundwater. Another tool used by EPA was a computer model of a municipal landfill to predict concentrations of constituents (metals) that might leach to nearby groundwater wells. The criteria for contamination of underground drinking water assumes that a person would drink 2 liters each day for 70 years from a water well downgradient of a municipal landfill. EPA's computer model assumed an infinite source of contaminants due to the large volumes of wastes found in a typical landfill.

In addition to the EPA analysis, ERT, an environmental engineering firm under contract with API, conducted a parallel field sampling and analysis study of E&P wastes to complement EPA's analysis. These studies were carried out over a 3 month period from July to September of 1986. The ERT survey consisted of 92 samples collected from 45 of the 49 EPA survey sites.

1. *Drilling Muds*—These wastes are classified as "pit solids" or "pit liquids". The July 1987 ERT Report showed that of the 26 pit solids samples taken, none exceeded reactivity, corrosivity, or TC limits.

Of the 18 pit liquids samples taken, none exceeded reactivity or TC limits. Only one, a water-based mud which used lime for pH control, was outside of the parameters for nonhazardous waste. This liquid in the pit failed the corrosivity characteristic (too high of a pH due to the lime).

To summarize, none of the drilling solids or liquids sampled failed Toxicity Characteristic levels.

2. *Produced Water*—The July 1987 ERT Report showed that of the 26 samples taken, none exceeded reactivity or corrosivity limits. One sample in New Mexico exceeded the arsenic limit of the TC at 8.7 mg/l (the EPA TC regulatory limit is 5.0 mg/l). No other metals limits were exceeded. However, 14 of the 26 produced water samples exceeded the TC regulatory limit of 0.5 ppm for benzene.

<sup>6</sup> Ibid., pg 5 and 6

3. *Associated Waste*—There were not enough samples collected to characterize these wastes adequately in the 1987 studies by EPA and API. However, this testimony has further discussions of associated wastes on pages 20 (some workover wastes generated), pages 27 and 28, and discussion of the Toxicity Characteristic testing results of some tank bottoms in Attachment V.

4. *Analysis of Waste: Conclusions*—The results of both the EPA and ERT studies combined with EPA's computer risk analysis show that the threat posed to human health and the environment by drilling wastes managed in onsite reserve pits and the disposal of produced water by underground injection were small. These wastes do not pose a significant threat to human health and the environment when properly managed. Factors considered include the concentrations of the constituents of concern and their mobility and persistence in the environment. Drilling muds have been referred to as "toxic soup" by many environmental groups. But when EPA and ERT analyzed these wastes, they found that none of the samples analyzed would exceed the TC limits. So in spite of their appearance, the wastes simply do not pose a significant threat to human health and the environment.

#### VI. OIL AND GAS DAMAGE CASES

The 1980 RCRA amendments directed EPA to include in its study of E&P wastes the identification of examples of practices that caused environmental or health damage. A group of 228 damage cases were collected by EPA's contractor, who indicated they had passed the agency's "test of proof" for validity.

This claim of 228 "damage cases" was promptly and thoroughly discredited. Several producing States and API conducted extensive reviews and analysis of the 228 alleged damage cases and uncovered major flaws in methodology and factual content by EPA's contractor. The analyses demonstrated that many of the allegations were inadequately documented and provided no valid basis for further assessment. Many of the alleged damages cited by the contractor simply could not be validated when all records were reviewed.

The 1987 API study concluded that existing regulations covered 224 of 228 cases initially presented to EPA by its contractor. Current regulations now cover all 228 cases. None of the damage cases documented an impact to human health.

The EPA accepted the validity of the API and producing States analyses and used them to screen the 228 cases. This screening reduced the number of cases to 62 in the final report to Congress.

Analysis of the damage cases shows that State and Federal regulations address the kinds of environmental problems that may occur if proper waste management practices are not employed. In all cases, existing legislation provided the authority to regulate E&P wastes and protect human health and the environment.

Following is a summary of the 228 cases and the findings by API.

API Analysis of 228 Cases Initially Presented to EPA		
Category	Description	Number of Cases
Non-RCRA Issues	Oil spills and NPDES discharges covered under the Clean Water Act, groundwater issues covered under the Safe Drinking Water Act	45
Non-Current Practices	Waste management practices no longer used	67
Violations of Existing Regulations	Pre-1988	136
Unsubstantiated Cause/Damage	Administrative/legal action did not support claim, or a study	81
Pending Case	Case under agency or court review with decisions not reached	18

Note: Several of the 224 cases fell into more than one category, e.g. the case may be a non-current practice and a violation. Consequently, table values will exceed 224 when added. In particular, when the damage case evaluation indicates that an operator had violated current regulations, administrative or enforcement actions were taken by the state regulatory agency in 126 of the 136 cases.

## VII. IOGCC/EPA MODEL STATE REGULATORY PROGRAM

While the EPA's Regulatory Determination found that existing State and Federal programs were generally adequate to control E&P wastes, the Agency did identify some regulatory gaps. To fill the gaps, EPA funded an effort by the Interstate Oil and Gas Compact Commission (IOGCC) to develop a model State regulatory program for E&P wastes. The IOGCC is an organization comprised of the Governors (or their representatives) from the oil and gas producing States.

*A. Background*

Funded by a two year, \$300,000 grant from EPA, the IOGCC formed the Council on Regulatory Needs in January, 1989 to identify methods to improve E&P waste management. The Council was co-chaired by Governor George A. Sinner of North Dakota and then-Governor Garrey Carruthers of New Mexico. This joint effort by IOGCC/EPA also included representatives from State regulatory agencies, industry, environmental groups, and the Department of Energy. The Council produced a final report in December 1990 designed to:

- establish a baseline of performance for State E&P waste management;
- demonstrate a commitment to environmental improvement shared by State governments, EPA, environmental groups and industry;
- serve as a model for future efforts to deal with complex oil and gas related environmental issues; and
- serve as a resource document for information on all State E&P waste regulatory programs.

*B. State Program Criteria Identified*

The IOGCC/EPA report identifies administrative and technical criteria for managing E&P wastes and outlines the need for clearly defined statutory authority and adequate levels of funding and staffing. The report does not address the disposal of produced waters by injection or by surface discharge, since these practices are already regulated under existing State and Federal programs.

The report encourages States to establish and implement specific environmental performance standards and design specifications based on site specific or regional differences in geology, hydrology, climate, and waste characteristics.

*C. Implementation of IOGCC Criteria*

IOGCC has begun to take steps toward improving State E&P waste management plans in accordance with the report. Aided by additional funding from EPA, IOGCC has three projects currently underway:

- establishment of a data base encompassing all State E&P waste management regulations;
- development of a training program for State oil and gas regulators; and
- installation of a peer review process to evaluate State regulatory programs, including the development of a comprehensive checklist and an on-the-ground evaluation of practices. The first State to be reviewed under the peer review process was Wyoming.

As an expression of commitment to the IOGCC/EPA Report's goals, the IOGCC's March 1991 executive meeting passed a resolution recommending that States proceed to evaluate their own regulations. Some individual States, including Wyoming, Alabama, New Mexico, Montana, Oklahoma, and Louisiana, have already initiated such reviews.

The oil and gas industry strongly supports this process because these State regulatory experts have the technical knowledge and understanding of specific geological and environmental conditions in their State and are therefore in the best position to evaluate E&P environmental regulatory practices and recommend changes.

## VIII. OIL AND GAS INDUSTRY ENVIRONMENTAL GUIDELINES

The oil and gas industry has developed extensive guidelines for environmentally sound management of E&P wastes. These efforts include published guidelines for E&P waste management, updating recommended operating practices and engineering standards, and a project underway to develop comprehensive environmental auditing guidelines for E&P facilities. A comprehensive training program for effective management of E&P waste has been developed. Workshops are currently being conducted for E&P operators, including independent operators, in all major producing States.



### *A. API Environmental Guidance Document*

The "API Environmental Guidance Document—Onshore Waste Management in Exploration and Production Operations", first published in January 1989, contains recommendations for the environmentally sound management of solid waste resulting from the exploration and production of oil and gas. Wastes generated in E&P operations are outlined, along with all major laws and regulations governing waste management. Safe waste management practices for various operating environments are described, including recommended limitations on the waste constituents. The document supports development of area or statewide E&P environmental waste management plans, and includes an outline of these plans. The training program being conducted is based on this document. Although the Environmental Guidance Document was developed primarily for use by E&P operators, it is also being used by State regulators, along with the IOGCC model regulatory program, to review State regulatory programs, help identify regulatory gaps and develop State program upgrades.

### *B. API Quality and Standards Programs*

In addition, API has, for many years, had quality and standards programs to ensure the oilfield equipment purchased by member companies meets rigorous standards of performance. API has applied these engineering standards and quality programs to all lines of equipment, some of which may not have an obvious environmental connection to those not familiar with the oil business. Pipe standards ensure uniformity of material so that the proper grade of pipe is placed in service and that, once in service, will not be subject to catastrophic failure or corrosion. Similarly, valve standards have been developed including standards for emergency shutdown valves and subsea shutdown valves that prevent wells from leaking onto the land or in water in case of malfunction or accident.

## IX. RCRA DISPOSAL CAPACITY SHORTAGE

### *A. Concerns About Inadequate National Capacity*

In considering the question of oil and gas production wastes in the context of RCRA, Congress should be aware that any decision to regulate E&P wastes as hazardous would place an enormous burden on the existing commercial capacity to treat them. There is a strong possibility that the nation's hazardous waste disposal capacity would be overwhelmed if high volume/low toxicity E&P wastes were to be regulated as hazardous.

### *B. Underground Injection*

The Underground Injection Practices Council (UIPC) reported that in 1990 there were 433 Class I (hazardous) injection wells nationwide. Most of these wells are for private use by their owners and are dedicated to disposal of hazardous aqueous wastestreams at manufacturing sites located along the Gulf Coast and in the Great Lakes region.

Nationwide, there are only 19 commercial Class I hazardous waste injection well facilities; twelve are in Texas, two in Louisiana, four in Ohio and one in Oklahoma.

By the industry's latest estimate, oil and gas operators dispose of 7.7 billion barrels of produced water annually. Permitted surface discharge accounts for 1.2 billion barrels, disposal by percolation accounts for 0.7 billion barrels, and the remaining 5.8 billion barrels are disposed of in approximately 45,000 Class II injection wells operated by the E&P industry. With only 19 commercial Class I wells nationwide, classification of produced water as hazardous in new RCRA legislation would cause a severe capacity shortfall.

### *C. RCRA Incineration*

There are only eleven commercial RCRA incinerators located within the oil producing States. Manufacturing sites generate 292,000 tons/yr of hazardous liquids. An excess capacity of approximately 1.0 million tons/yr exists for hazardous liquid incineration. If drilling mud liquids from reserve pits were listed as hazardous and incineration were required, the estimated 50 to 60 million tons per year would inundate the excess national capacity.

In the case of sludges/solids, however, a national incineration capacity shortfall exists; only 171,000 tons/yr of sludges/solid incineration capacity exists. For this reason, EPA granted a national capacity variance. As a result of the capacity shortfall, some cement kilns, boilers, and other industrial furnaces are burning organic hazardous waste if the wastes have sufficient fuel content. Currently, there are about 35 of these facilities incinerating hazardous waste as fuel. However, new mon-

itoring and performance standards for these industrial furnaces, boilers, and cement kilns may stop many from using this waste as fuel.

Drilling mud solids and cuttings alone, if listed, would add about 20 million tons per year to the volumes for potential incineration. Since the mud solids and cuttings have no fuel value, they could not be used in the cement kilns and would have to be sent to the approved RCRA incinerators. The 20 million tons per year is more than 100 times current RCRA incinerator capacity.

#### *D. Summary of National Hazardous Waste Disposal Capacity*

Clearly, EPA was correct when the Agency determined that regulating E&P wastes as hazardous would "severely strain" hazardous waste facility capacity. Any such regulation would inundate the existing capacity and drive up costs for disposal forcing many oil and gas producers, as well as some in other industries, out of business. And considering these wastes are already appropriately managed, there would be virtually no environmental benefit.

### **X. ENERGY IMPACTS OF ADDITIONAL LEGISLATION**

#### *A. Concerns—Contrary to the National Energy Strategy*

As noted earlier in this testimony, the vast majority of oil and gas wells in this country are "marginal" in the sense that it would take very little additional cost to render them uneconomical and cause them to be shut in. The Gruy study suggests that the costs involved in treating production wastes as industrial wastes, under the procedures described in S.976, would result in the loss of over 700,000 oil and gas wells, dramatic decreases in domestic production, and diminished reserves.

With the United States currently importing about half of the oil we consume, it is apparent that any decline in domestic production can only be offset by increased energy imports. Even if the United States were to make dramatic progress in conservation, a decline in domestic production still increases our degree of reliance on imports.

Measures, such as costly and unnecessary RCRA regulation of production wastes, that have the effect of diminishing domestic production run counter to the energy strategies and policies currently being developed by Congress and the administration.

#### *B. Increased Costs Cannot be Passed to Consumers*

The price of oil is not determined solely by some invisible hand of supply and demand. Most of the decisions that impact on price are made by OPEC, and OPEC producers already have a substantial cost advantage over domestic producers. Refiners will purchase oil at the lowest possible price; they will not pay a premium for domestic production. So it is clear that, if additional RCRA regulations create a new cost burden for domestic producers, that difference cannot be passed on to consumers. It must be absorbed by the producer who is operating under a global market price scheme. Those wells that can absorb this additional cost of doing business will survive; others will fail, and their production will be lost. Foreign production will gain an added economic advantage in relation to the domestic energy industry.

#### *C. EPA's Energy Concerns in the Regulatory Determination*

Like the analysis of the energy impacts of additional Federal regulation conducted by Gruy Engineering, EPA analysis of the consequences of additional Federal regulation, under a different set of regulatory assumptions, produced similar results. In its 1988 Determination, EPA concluded:

Application of RCRA Subtitle C to exploration, development, and production wastes could be extremely costly if large portions of these wastes were hazardous. The Agency estimates that implementation of RCRA Subtitle C on 10 to 70 percent of the large volume drilling waste and non-EOR produced water would cost the industry and consumers \$1 billion to \$6.7 billion per year in compliance cost (not including costs for land ban or corrective action regulations mandated by Congress). This would reduce domestic production by as much as 12 percent.

### **XI. OTHER ISSUES**

#### *A. Toxicity Characteristic*

##### *1. TC is Designed for Landfills*

Due to the partial exclusion from regulation under Subtitle C of RCRA, certain E&P wastes have been exempt from the Toxicity Characteristic requirements. The issue of applying the Toxicity Characteristic to E&P waste is of tremendous concern

to industry because the test values that determine if a waste is hazardous were designed for a municipal landfill type environment, which does not apply to E&P operations.

EPA designed a test, the Toxicity Characteristic Leaching Procedure (TCLP) to simulate the leaching of waste constituents from a landfill environment (acidic, high volume, covered so that no air is present) into groundwater. EPA also developed a computer model of a municipal landfill to predict concentrations of constituents (metals) that might leach to nearby groundwater wells from the landfill environment. EPA's computer model assumes an infinite source of contaminants due to the large volumes of wastes found in a typical landfill.

## *2. Not Intended for E&P Waste Management*

EPA did not intend to apply the TCLP to the E&P waste management scenario. In fact, as EPA explained in its 1987 Report to Congress in Volume II, Page 41:

The TCLP was designed to model a reasonable worst-case mismanagement scenario, that of co-disposal of industrial waste with municipal refuse or other types of biodegradable organic waste in a sanitary landfill. As a generic model of mismanagement, this scenario is appropriate for nonregulated wastes because those wastes may be sent to a municipal landfill. However, most waste from oil and gas exploration and production is not disposed of in a sanitary landfill, for which the test was designed. Therefore, the test may not reflect the true hazard of the waste when it is managed by other methods. However, if these wastes were to go to a sanitary landfill, EPA believes the TCLP would be an appropriate leach test to use.

The reasons the TCLP is inappropriate for determining the risks to human health and the environment posed by E&P wastes include:

- The waste management practices used by the E&P industry are fundamentally different from the municipal landfill scenario used by EPA to determine if a waste is toxic. The deep underground injection places the wastes in isolated underground reservoirs well below usable drinking waters. The landspread and roadsprayed practices associated with E&P wastes expose them to oxidation, biodegradation, and do not create the acidic conditions that contribute to the leaching process in a landfill.

- E&P wastes landsprayed and roadsprayed are generally managed on-site, in small volumes, or in single applications. The volumes of wastes at one site are not nearly as great as those in a municipal landfill, making the "infinite source" parameters in EPA's computer model inappropriate to predict the fate and transport of E&P wastes.

## *3. Risk Analysis Shows No Significant Threat*

EPA's finding that E&P wastes rarely pose a significant threat to human health and the environment emerged from EPA's investigation of the three primary hazard factors; concentration, mobility, and proximity. As EPA stated in the 1988 Determination:

For the Report to Congress, EPA conducted a limited analysis which modeled the potential effects of disposal of drilling waste in reserve pits and the disposal of produced water by underground injection and found that the potential risks to human health and the environment were small. Only a few constituents appeared to be of major concern when these wastes are managed in accordance with existing State and Federal regulations. The actual threats posed were largely dependent upon site-specific factors such as populations or sensitive ecosystems.<sup>9</sup>

To further illustrate the points about occurrence, mobility, and proximity, EPA said:

The presence of constituents in concentrations exceeding health-or environmental-based standards does not necessarily mean that these wastes pose significant risks to human health and the environment. In evaluating the risks to human health and the environment, several factors beyond the toxicity of the waste should be considered. These factors include the rate of release of contaminants from different management practices, the fate and transport of these contaminants in the environment, and the potential for human health or ecological exposure to the contaminants.<sup>10</sup>

<sup>9</sup> Ibid., pg 29

<sup>10</sup> Ibid., pg 30

E&P wastes are high volume/low toxicity wastes, managed in a variety of ways at more than 1.25 million E&P sites across the country unlike the centralized management of municipal and industrial landfills. Most E&P wastes are already regulated, injected into Class II wells under the UIC program of the Safe Drinking Water Act, discharged to surface waters under the NPDES program of the Clean Water Act, and landspread and roadspread in accordance with State requirements.

#### *4. TCLP is a Costly Analysis*

The TCLP is an expensive analysis. The lab fee for a two phase sample such as a crude oil tank bottom will cost approximately \$1,500-\$2,000 including the matrix spiking and recovery correction procedures that EPA requires. Assuming a typical royalty of 12.5 percent and 4.5 percent State severance tax, the \$1,500-\$2,000 lab fee is equivalent to the revenue from 90 to 120 barrels of oil at \$20 per barrel. The labor cost for sampling, packing in ice, and shipping will add further to the costs.

#### *B. Naturally Occurring Radioactive Materials (NORM)*

The petroleum industry has been addressing the issue of naturally occurring radioactive materials (NORM) related to oil and natural gas producing operations. We have assessed the problem through surveys and studies, developed guidelines for education and training of personnel, and worked with State and Federal officials as they have attempted to address NORM issues. The following is a brief summary of private and public sector activities on NORM together with some background and historical information.

##### *1. Background*

The presence of NORM in oil and gas producing operations has been recognized since the early 1930's when slightly elevated radium levels were detected in Russian oil fields. In 1981, NORM was found in scale, a debris that can accumulate inside oil production equipment, on North Sea platform equipment. In 1986, barium sulfate scale deposited in production tubing in a Mississippi well was found to contain NORM.

NORM is common and difficult to avoid. Our natural environment contains many substances that emit very low levels of radiation to which everyone is exposed. Radiation is present in rocks and soils, in the air we breathe, in public water supplies and mineral waters. It is even in the foods we eat. Brazil nuts, mustard, mint, cinnamon, ginger, and black pepper are a few of the foods that contain small amounts of NORM. These and other natural sources expose individuals to "background levels" of radiation totalling about 300 millirems per year.

While some level of NORM has been detected at most oil and gas production operations, it is typically at background levels and rarely exceeds government standards.

For example, a 1988 American Petroleum Institute (API) nationwide survey on NORM in petroleum producing and gas processing facilities showed that more than 99 percent of the 36,000 external gamma radiation measurements taken were less than 0.6 millirems per hour. This level is well below the limits set by the U.S. Occupational Safety and Health Administration (OSHA). OSHA allows workers to be exposed to no more than 1250 millirems each calendar quarter or about two millirems per hour, eight hours per day, five days per week.

##### *2. Protecting Workers and the Public*

The oil and gas industry meets health, safety and environmental concerns associated with NORM through traditional industrial hygiene practices and work procedures, which include:

- Flushing oil-water separators and other equipment before cleaning;
- Using respirators and breathing apparatus while working inside equipment;
- Using masks while performing grinding and chipping operations;
- Using protective clothing; and,
- Avoiding eating, smoking, or chewing around open equipment.

We responded to the discovery of NORM at a Mississippi location by (1) notifying appropriate State agencies and informing the Mid-Continent Oil & Gas Association and other oil and gas operators, employees, and contractors, (2) initiating field surveys to locate the presence of NORM, (3) initiating training programs, and (4) reviewing operating practices.

For example, API and its member companies, working with scientists and engineers in universities and independent consulting firms, have conducted studies and research on NORM found in oil producing regions. API has developed a videotape describing NORM in oil and gas operations and outlining basic hygiene precautions when cleaning equipment contaminated with NORM. Industry has used the videotape to educate employees who work on equipment where NORM is present. API

has also published "Management of Disposal Alternatives for NORM Wastes in Oil Production and Gas Equipment and Methods for Measuring NORM in Petroleum Production Equipment". And API is now developing an environmental guidance document on NORM management and disposal with publication planned for late 1991.

Finally, industry has been cooperating with environmental officers of the Federal and State governments by providing them with its research data and seeking their advice. We will continue to do so as research proceeds.

### *3. Regulating NORM*

OSHA has regulations relating to worker radiation exposure. Other Federal agencies such as the Environmental Protection Agency, the Department of Transportation and the Department of Energy also have regulations regarding radioactive materials. These government regulations, some of which affect oil operations, were implemented before the oilfield NORM issue gained public attention.

We note that the States have been active on this issue. Louisiana adopted regulations for cleaning up NORM-contaminated production sites in 1989. Texas, Alabama, Arkansas, Mississippi and Oklahoma are currently considering similar guidelines or regulations. These State efforts on NORM provide additional evidence that the regulation of E&P wastes at the State level works well and is fully capable of responding to new waste management issues.

### *C. Consequences Related To Altered Scope Of RCRA*

There are three other issues related to RCRA reauthorization and the oil and gas industry that should be called to the committee's attention.

#### *1. Enhanced Oil Recovery and Recycling*

First, if recycling definitions preclude the reinjection of produced waters, there will be serious implications for enhanced oil recovery.

Congress clearly intends to address the question of recycling wastes. Some people are advocating hazardous waste recycling programs—and this is where definitions become so important.

As stated earlier, 63 percent of produced water is reinjected for enhanced oil recovery that creates the production of billions of barrels of oil. If Congress writes the definitions in the recycling program so as to prohibit this reinjection of produced water for enhanced oil recovery, the consequences to energy supply would be catastrophic.

#### *2. Permitting Costs*

The cost of permitting is another issue that could have unintended results unless definitions are carefully reviewed. For example, E&P wastes are currently included in the general scope of Subtitle D. But, Subtitle D covers various municipal and industrial wastes that are landfilled. Proposals to assure that the permitting costs of new Subtitle D facilities are recovered from the users of these landfills could capture oil and gas E&P operations even though these wastes would be managed differently. Particularly in the case of marginal wells, the application of even a modest fee for a municipal landfill user could result in a cost increase that would compel the capping of a well. No one benefits from such an outcome. Oil capacity is lost and there is no purpose for such a permit fee.

#### *3. Class II UIC Program*

Finally, as stated earlier, new TCLP requirements could encompass some produced waters already regulated under the Class II UIC program. However, if an interpretation of RCRA compelled these waters to be sent to Class I wells, the consequences would again be significant and adverse. There would be no environmental benefit, but there would be dramatic pressure on the Class I UIC wells. Rough estimates show that produced water disposal volume to be about 7,700 million barrels/yr, which exceeds commercial Class I capacity by orders of magnitude. Existing Class II wells can not be simply converted to Class I wells. Nor is it feasible from a cost, permitting, or technical standpoint to drill Class I wells at existing E&P operations. As a result, both the commercial Class I UIC facilities and existing E&P operations would be adversely effected. Class I wells could not accommodate all their current waste streams and handle produced waters. And, existing E&P operations would be compelled to shut down if they could not dispose of the produced waters.

## XII. CONCLUSIONS

Independent and major producers of oil and gas in all regions of the country are united in the belief that additional RCRA regulation of production wastes is both unnecessary and unwise.

It is unnecessary because the current mix of State and Federal regulation is uniquely suited to the effective management of these wastes. The system works well and is fully capable of responding to newly identified needs. Moreover, State regulations, along with industry practices and technology, are based on more than a century of experience that includes the drilling of nearly three million wells. This is expertise that the Federal Government will never be able to acquire. No Federal program will ever be staffed or funded at a level that can effectively deal with the diversity of needs that the 33 producing States demand.

The industry fully supports the effort being undertaken by the IOGCC and the EPA to close any gaps in existing State regulatory programs.

Additional RCRA regulation of production waste would be unwise because it would place a major cost burden on domestic producers that would force them to shut in hundreds of thousands of marginal properties all across America. The ensuing loss of domestic production would increase our reliance on imports and run counter to national energy strategies being developed in Congress and by the administration. The additional costs of regulation would provide no discernable improvement in the environment and human health beyond that which is already provided by the existing mix of State and Federal regulation.

The question of oil and gas production waste management has been studied thoroughly by the EPA and other parties. The consistent conclusion has been that these wastes present minimal threat to human health and the environment when properly managed and do not warrant classification as "hazardous" under RCRA.

The rigid RCRA structure is not suitable for the management of high-volume, low-toxicity wastes generated at over one million oil and gas production sites nationwide. What makes sense in the Louisiana wetlands does not necessarily provide sound, efficient waste management policy in the arid areas of West Texas, the high plains of Wyoming, or the Appalachian fields of West Virginia. The individual States, however, understand factors unique to their producing regions, have extensive experience in oil and gas waste management, and are in the best position to assume this responsibility in the future.

Any move to impose RCRA regulation on oil and gas production wastes would overwhelm the capacity of existing RCRA facilities. It would also divert scarce resources and personnel from dealing with toxic wastes and overlay an unnecessary, costly, cumbersome system of regulation on wastes that already are being managed in a safe and responsible manner by State and Federal regulation.

In conclusion, when considering the whole picture, there is no justification to establish a Federal regulatory program to control the management and disposal of E&P wastes.

[Attachments to this statement have been retained in committee files.]

## PREPARED STATEMENT OF CHRIS SHUEY

## I. INTRODUCTION

Good morning. My name is Chris Shuey. I am the director of the community water quality program at Southwest Research and Information Center (SRIC). SRIC is a community-oriented, nonprofit educational and scientific organization, based in Albuquerque, New Mexico. SRIC provides technical assistance to individuals and communities that are adversely affected by water quality and toxic waste programs and conducts policy analysis on a wide range of environmental issues at the local, State and Federal levels.

This testimony is presented on behalf of SRIC and the National Citizens' Network on Oil and Gas Wastes. The Network is a compilation of more than 125 national, State and local environmental and grass-roots citizens' groups whose memberships include millions of people across the country. The Network's member and supporting groups and individuals are concerned about contamination caused by the storage and disposal of wastes generated during the exploration for and production of oil and gas. Member and supporting national organizations include the National Audubon Society, the Mineral Policy Center, Sierra Club, the Environmental Defense Fund, and more. A list of the Network's member and supporting organizations is appended as Exhibit A.

As Congress begins the process of reauthorizing the Resource Conservation and Recovery Act (RCRA), SRIC and the rest of the Network urge this committee to include comprehensive Federal standards for the treatment, storage and disposal of oilfield wastes in any reauthorization bill the committee considers.

The current lack of requirements in the statute for oil and gas wastes is perhaps the most gaping loophole in RCRA's regulatory scheme. Wastes generated during the exploration and production for oil and gas constitute the largest category by volume of solid wastes generated annually in the United States. More than 2.8 billion tons of oilfield wastes are generated every year, an amount that is equivalent to approximately 25 percent of the all the wastes generated annually in the U.S. In contrast, municipal solid waste constitutes approximately 1.5 percent of the total waste stream (approximately 160 million tons).

Oilfield wastes contain dangerously high levels of benzene and other organic contaminants, radioactive isotopes (radium-226 and -228), and a variety of inorganic constituents including heavy metals and salt-forming elements. Current methods of disposal of oilfield wastes in unlined pits and through land spreading and other techniques have led to contamination of ground water, wetlands, and other sensitive ecological areas. In addition, every year oilfield pits kill hundreds of thousands of birds and migrating waterfowl that mistake oily pit wastes for fresh-water ponds. In 1989 alone, the U.S. Fish and Wildlife estimated that more than twice the number of birds that were killed in the Exxon Valdez accident—more than 500,000—perished in oil and gas pits in just four of the oil-producing States: Texas, New Mexico, Oklahoma, and Kansas.

Despite their demonstrated toxicity and huge volume, oilfield wastes are exempt from the provisions of Subtitle C of RCRA. As a consequence, virtually no RCRA standards apply to oil and gas waste disposal. The Network recognizes that it may be impractical to impose the requisites of Subtitle C regulation on all types of oil and gas waste, because of the huge volume of material that would be affected. However, it is the Network's position that Congress should lift the statutory exemption for one category of oilfield wastes, the so-called "associated wastes." With respect to the large-volume wastes—i.e., produced water and drilling fluids—Congress should include specific minimum standards for their treatment, storage and disposal as part of a Federal oil and gas regulatory program administered by the States.

## II. CATEGORIES OF OIL AND GAS WASTES

By way of background, it would be useful to describe the three categories of oil and gas wastes.

1. *Produced water/NORM wastes.* Produced water is the briny fluid that is brought to the surface with oil and gas during the production process, and then separated from the product and disposed of. Produced water is the single largest source of oilfield-related pollutant discharges; about 21 billion barrels of produced water are generated and disposed of annually in the United States. Produced water contains elevated concentrations of organic and inorganic constituents, salts and, in a large number of formations, naturally occurring radioactive materials (NORM).

Data compiled by the American Petroleum Institute (API), a number of State regulatory agencies, and independent scientists indicate that produced water almost always contains alarmingly high levels of benzene, a proven human carcinogen. Benzene levels in produced water often range from one to 10 parts per million (ppm), and have been detected as high as 65 pp.m. If not for the RCRA statutory exemption from Subtitle C, produced water would almost always meet the definition of hazardous waste in the Federal regulations because of its benzene content. The toxicity characteristic level for benzene under Federal law is 0.5 milligrams per liter (mg/l), or 500 parts per billion (ppb), a level consistently exceeded in samples of produced water. Benzene concentrations in produced water always exceed EPA's Maximum Contaminant Level (MCL) of zero and almost always exceed the Federal drinking water standard of 0.005 mg/l (or 5 ppb).

That produced water contains high concentrations of benzene and other organics is why we remind the public that oilfield brines are not "just saltwater." But even if salinity was the only measure of its toxicity, produced water would nonetheless be a harmful substance. The salt content of produced water ranges up to 300,000 ppm, according to data assembled by API. The average salinity of sea water, by comparison, is approximately 35,000 pp.m.

Since the turn of the century, produced water has been known to contain elevated levels of certain radioactive materials, especially isotopes of radium. The mean concentration of radium-226 detected in produced waters in Louisiana in a recent study was 175 picocuries/ liter (pCi/l); the maximum concentration was 930 pCi/l. In southeast New Mexico in 1989 and 1990, mean radium-226 levels in produced water

were 1,346 pCi/l, with a maximum concentration of 6,000 pCi/l. The maximum concentration of radium-226 in Michigan brines was 9,000 pCi/l in 1990. By comparison, the Federal drinking water standard for total radium is 5 pCi/l, and discharges from commercial nuclear facilities to unrestricted areas are limited by regulation to 30 pCi/l.

During production, changes in temperature and pressure cause NORM constituents (i.e., radium-226 and -228 and the solid decay products of radon gas) to concentrate inside production pipes as "scale." (API defines scale as radium co-precipitated in barium sulfate). These constituents also precipitate inside production processing and storage equipment (i.e., heater treaters, separators and storage tanks), forming radioactive sludges with sands and silts that are co-produced with the oil and gas.

The radioactive elements do not remain with the oil product. However, radon, because it is a gas, follows the gas production stream. Consequently, radon can be detected in some streams of natural gas and in gas processing facilities, including pumps, tanks and product pipelines.

The organic contaminants, high salinity, and radioactive elements in produced water have been responsible for dramatic environmental damage cases in a variety of environments. Chloride and organic contamination of drinking water sources and/or aquifers used for livestock and irrigation has been documented in virtually every oil-producing State. A recent study by the Louisiana Department of Environmental Quality revealed that organic and radioactive constituents are accumulated by certain marine organisms and may be a threat to oyster and other shellfish populations, as well as the humans that consume them.

Oilfield workers are exposed to dangerous levels of radiation when they clean process equipment contaminated with radioactive scale or sludges. In certain places, oilfield equipment is routinely sold at the conclusion of production at a site, and used for other purposes. In this way, "hot" pipe and other equipment has been introduced into commerce and has exposed unknowing citizens to radiation. A chilling example of citizen exposure to radioactive oilfield equipment was recently documented in Mississippi, where radioactive pipe had been installed as part of a chain link fence that surrounded an elementary school playground. See Exhibit B. Lawsuits have been filed by Mississippi business owners who claim that health problems among their employees and family members were caused by their exposure to radioactive oilfield pipes and pipe scales "recycled" by the firms.

**2. Drilling Fluids.** Drilling fluids are the second-largest category of oilfield wastes. Drilling fluids are water or oil-based fluids in which reactive solids and inert solids are suspended or dissolved. Drilling muds are used during the drilling process to transport drill cuttings to the surface, suspend cuttings when circulation is stopped, cool and lubricate the drill bit, support the walls of the well bore, among other things. Various chemicals may be added to the muds to obtain particular properties necessary for drilling, depending on the type and depth of the formation, the ambient temperature, and other factors.

The toxicity of drilling muds and the environmental threat that may be posed by disposal practices depends on whether the mud is water or oil-based, and on the chemical additives used during the process. The majority of drilling muds in use are water-based. However, diesel-based fluids are used in certain operations. Oil-based muds pose the greatest environmental risk when improperly disposed of, because of the organics and heavy metals they contain. EPA recently wrote that water-based muds are almost always a viable substitute for oil-based muds. In those instances where oil-based fluid is more desirable, mineral-oil based mud is a ready substitute for diesel-based mud. Mineral oil presents fewer environmental risks than diesel-based fluids.

**3. Associated wastes.** Associated wastes are low in volume (EPA estimates that approximately 1.7 million metric tons are generated per year, or about 0.1 percent of the oil and gas waste stream), yet, due to their toxicity, they have been responsible for a large proportion of the documented damage cases. Associated wastes differ from produced water and drilling fluids in that they are often very similar in chemical composition to wastes generated by other industries.

Examples of associated wastes are tank bottoms (which are closely similar to API separator sludge, a listed hazardous waste); workover wastes (which often contain solvents and corrosion inhibitors that may be hazardous); completion fluid wastes (which include solvents and corrosion inhibitors); stimulation fluids (which may contain highly corrosive hydrochloric acid or hydrofluoric acid); and spent carbon filters (that are often contaminated with organics). Associated wastes are routinely co-disposed with drilling fluids in unlined reserve pits or in land disposal units, including local landfills.



### III. SHORTCOMINGS IN THE EPA REPORT TO CONGRESS AND JULY 1988 REGULATORY DETERMINATION

As you know, Section 3001(b)(2) of RCRA exempts exploration and production wastes from hazardous waste regulation until EPA prepares a Report to Congress and a regulatory determination for the wastes. Regardless of the results of EPA's Report, Congress reserved for itself the final decision by requiring an Act of Congress prior to subjecting oilfield wastes to regulation as hazardous wastes. Accordingly, the EPA actions were never intended by Congress to be the last word on the issue.

EPA submitted its Report to Congress in December 1987. In the Report, EPA concluded that the threat of significant health and environmental effects from "properly managed" E&P waste operations was low, particularly when the wastes were managed in accordance with existing State requirements. EPA based its conclusion on the Report's risk modeling and assessment of damages to human health and the environment. However, because of substantial shortcomings in EPA's Report, EPA's conclusion lacked a valid foundation in 1987 and remains flawed today. The following shortcomings of the Report are particularly important:

- Many of the most significant risks posed by E&P waste management practices were not analyzed. These included potential ground water contamination from production pits, at both onsite and offsite (centralized and commercial) facilities; the exposure of workers and the public to radioactive pipe, pipe "scale," and other wastes; and potential damages to wildlife from uncovered pits and tanks.

- EPA sampled oilfield wastes using a conventional leaching procedure that underestimates the concentration of leachable contaminants in the wastes. Though EPA had developed the Oily Waste Extraction Procedure in 1985 to more accurately predict the release of contaminants from the oil, see Fed. Reg. 48908 (November 27, 1985), the procedure was not employed for the Report.

- EPA's methodology for collecting damage cases assured that the Agency would understate the size of the problem. Much of the field research was conducted over the December 1986 Christmas holidays when State contacts or private parties were unavailable; entire States were completely omitted from the investigation<sup>1</sup>; and the Agency would only consider a damage case where the site was already the subject of a "scientific study," court order, or State enforcement proceeding. Given these data collection methods, scores of damage cases were either not considered or never researched.<sup>2</sup>

Significantly, despite these fundamental flaws, EPA reached other more compelling conclusions that warrant your attention. First, EPA concluded that some waste management practices are "less reliable" than others, including the use of produced water pits. Report to Congress at VIII-1. Second, because some low-volume wastes (i.e., the associated wastes) exhibit hazardous characteristics and constituents, EPA concluded that:

"... it may be appropriate to require that they be segregated and that some of these wastes be managed in accordance with hazardous waste regulations. [T]he Agency ... seeks to avoid any deliberate and unnecessary use of reserve pits as a disposal mechanism. Segregation of these wastes from high-volume wastes appears to be desirable and should be encouraged where practical." Report to Congress at VIII-3.

EPA published its regulatory determination in July 1988. Based on the damage cases documented in the Report, EPA staff recommended that associated wastes be regulated as hazardous when they exhibited a characteristic. (Exhibit C to this testimony). However, senior management at the Agency reversed this recommendation in the published version. The staff's version of the recommendation was clear:

"The Agency has determined that regulation under RCRA Subtitle C of associated wastes generated by crude oil and natural gas exploration, development and production is warranted. [Emphasis added.] Associated wastes

<sup>1</sup>Only 14 of the 33 oil- and gas-producing States were visited as part of the EPA study in support of the Report to Congress.

<sup>2</sup>For example, the extensive record of E&P waste-related contamination of ground water in southeast New Mexico was subsumed into one damage case (NM04) in the Report to Congress. This record shows that more than 130 private water wells in New Mexico's largest oil-producing region are contaminated with increased chloride concentrations and hydrocarbons from leaking brine disposal pits, improperly constructed brine disposal wells, poorly constructed oil wells, deteriorated and/or broken casings in oil wells, and improperly plugged oil wells, according to New Mexico Environment Department and State Engineer Office reports.

are generated in very small quantities, and the likely economic impact of regulation of these wastes under RCRA Subtitle C is very small." Exhibit C at 47.

Management's version, however, went like this:

"The Agency has decided not to promulgate regulations under Subtitle C for large-volume and associated wastes. . . because, among other reasons, ". . . EPA would not be able to craft a regulatory program to reduce or eliminate the serious economic impacts that it has predicted." 53 Fed. Reg. 25456 (July 6, 1988).

Interestingly, those "serious economic impacts" that the staff alternatively described as "very small" did not change from the draft determination to the final determination. Both documents found that regulation of associated wastes as hazardous wastes would cost the oil and gas industry between \$200 million and \$500 million per year—or 3.5 cents to 11 cents per barrel of crude oil production. See Exhibit C at 45 and 53 Fed. Reg. 25455.

In addition to changing the staff's conclusion, several other significant factual findings reached by EPA staff were omitted or modified in the published regulatory determination. For example, the staff-prepared regulatory determination concluded that "relative to total production and the total volume of product, the overall impacts on the industry [of regulating associated wastes as hazardous] should not be unduly burdensome." This conclusion was eliminated from the version published in the Federal Register. See Exhibit C at 45.

Winston Porter, then-assistant administrator, was quoted in newspaper accounts in 1989 as justifying a continued exemption for associated wastes on the grounds that Congress would not have approved removing the exemption. That kind of reasoning is a self-fulfilling prophecy, particularly when the facts presented to the Congress and the public are modified to achieve an intended result.

#### IV. SHORTCOMINGS IN THE IOGCC E&P WASTE GUIDANCE CRITERIA

Opponents of a Federal program for E&P wastes suggest that the development of technical and administrative criteria for E&P waste management by the Interstate Oil and Gas Compact Commission (IOGCC) ("IOGCC guidance" or "IOGCC criteria")<sup>3</sup> can substitute for the enactment and issuance of Federal standards. However, the IOGCC criteria, which I had a hand in drafting, were never intended to serve as a basis for national standards. They cannot be because they are not based on the performance standard that lies at the heart of RCRA: protection of human health and the environment.

The guidance itself states the limits of its scope: "The criteria by themselves are not intended to form the sole basis of any future Federal statutory or regulatory authorities that may be sought by EPA for oil and gas production wastes." IOGCC guidance at 2. The document simply "establishes a baseline of performance. . . of E&P waste management." IOGCC guidance at 3.

The environmental participants in the IOGCC's E&P waste study went even further in addressing the limitations of the criteria. In a minority report appended to the study (see Exhibit D), we stated that the guidance ". . . is essentially a restatement of the status quo, a reaffirmation by the States of practices they already allow regardless of whether those practices are protective of public health and the environment." We enunciated several major weaknesses in the criteria themselves, including vague standards to prevent ground water contamination from pits, the lack of emphasis on segregating associated wastes, and the failure to protect vulnerable environments from produced water discharges.

Equally important, several technical matters intimately related to E&P waste management were outside of the scope of the guidance document. Corrective action requirements for existing or future facilities, criteria for the identification and management of sites containing radioactive oilfield wastes, and guidance for identification and remediation of abandoned sites were not addressed. Those matters were left for "future work." IOGCC guidance at 33.

#### V. NEED FOR A FEDERAL OIL AND GAS WASTE MANAGEMENT PROGRAM

A Federal E&P waste management program is needed, regardless of whether some or all of the waste remains exempt from hazardous waste regulation. State

<sup>3</sup>Interstate Oil and Gas Compact Commission. EPA/IOCC Study of State Regulation of Oil and Gas Exploration and Production Waste. IOGCC: Oklahoma City. December 1990.

programs are deficient both as to substantive requirements and enforcement. Even EPA acknowledged significant shortcomings in State programs in its July 1988 regulatory determination when it stated its intention to "design and implement" a Federal program for E&P wastes that would consider engineering and operating practices, closure procedures, monitoring, and corrective action. See 53 Fed. Reg. 25457 (July 6, 1988). EPA has initiated no regulatory action to date.

*The IOGCC State Review Process is Insufficient.* It is apparent to me after participating in the IOGCC State review process this year that the process is too severely limited in scope and force to substitute for a Federal program. As discussed earlier, the criteria upon which the State programs are principally being reviewed are especially weak in areas that are critical to achieving protection of human health and the environment. Nor do the State program reviews purport to assess a program's effectiveness in the field, where it counts, in part because IOGCC reviewers are in a State for only one week and review the program against questions based on the IOGCC criteria. While the reviews can provide useful guidance to the States, their limitations must be expressly acknowledged.

The pace of the State review process is, by design and necessity, extremely slow. Only one State program has been reviewed to date and only four to five more States will be reviewed within the next year. At this rate, a minimum of six years will be required just to review the programs; implementation of program changes, if implementation occurs, will take even longer.

Perhaps most important, there is no mechanism in IOGCC's State program review process that ensures that the States will make the program changes identified as warranted. "Peer pressure," or friendly persuasion among colleagues, is the only mechanism IOGCC has to convince the States to implement the recommendations of the review process. As such, even if the IOGCC criteria were comprehensive, the criteria are simply guidance that need not be followed by individual States. In contrast, a Federal program would establish minimum Federal requirements that States must follow to obtain and retain authorization to administer an E&P waste regulatory program.

Finally, a Federal program can improve enforcement in two substantial ways: (1) by ensuring that adequate financial and personnel resources are available through a permit fee system similar to the system Congress adopted last year in the Clean Air Act; and (2) by supplementing the enforcement activities of State regulators through RCRA's citizen-suit provisions and through EPA's oversight and enforcement.

*Rapid Improvement is Needed.* The need for rapid improvement in the management of E&P wastes is documented by statistics in EPA's October 1988 Report to Congress on municipal and industrial wastes and in recent documented damage cases:

- Of the approximately 191,000 industrial waste impoundments in the U.S., 65 percent are E&P waste pits. There are 19 times more E&P waste pits than there are municipal landfills.

- Approximately 70 percent of E&P waste pits are unlined, less than 2 percent are equipped with leak detection systems, and only 23 percent are equipped with overtopping controls.

- About 1.5 million gallons of natural gas condensate and 0.8 million gallons of produced water leaked from a gathering line south of a gas-processing plant in Eddy County, New Mexico, over a six-month period beginning last November. Benzene was detected in ground water monitoring wells three-quarters of a mile from the leak point and condensate was found floating on the water table in monitoring wells about a mile from the leak point. Today, the company is pumping condensate and water from the vadose zone and ground water beneath the leak site.

- Unlined produced water disposal pits that receive less than one-half barrel a day of fluids were shown to cause ground water contamination above regulatory standards in 50 percent of the cases in a study conducted by officials of the New Mexico Oil Conservation Division in 1987 and 1988. Contamination of ground water by pollutants in excess of background levels was discovered at 70 percent of the sites.

- Ponds designed to hold fresh water were instead found to contain oilfield brines more salty than seawater in northeastern Oklahoma in mid-1990. A report of the Oklahoma Corporation Commission's SOUPP (Special Operations Unit for Pollution Prevention) team said that local field inspectors warned investigators that if civil or criminal charges were filed against the offending companies, most would go out of business, according to news accounts.

- Several domestic water wells near Guthrie in Logan County, Oklahoma, were contaminated by saltwater flowing from an unplugged oil. Owners of the wells have been hauling drinking water for several years.

● Residents of north-central Oklahoma allege in eight pending lawsuits that oilfield brines have damaged farm lands and water wells. Unplugged and improperly plugged oil wells and the reinjection of saltwater in secondary recovery projects are blamed for the contamination, according to news accounts.

● The Ohio Attorney General in early August filed a 94-count lawsuit against an Ashtabula County oil company for contamination resulting from leaking oil wells and storage tanks. The lawsuit, which seeks \$676,000 in damages for violations at 51 oil and natural gas sites owned by the company, calls for the company to repair or replace oil storage tanks, construct and maintain berms around tank batteries, and remove and legally dispose of brine water and oil found floating on the ground surface at well sites and tank batteries.<sup>4</sup>

**State Program Resources.** Despite the need to closely regulate active sites and evaluate the impact of abandoned sites, some State programs are experiencing substantial cuts or uncertain funding. For example, budget shortfalls in Ohio this year led to the dismissal of more than half of the State's 55 oil and gas field inspectors. The cuts left 26 inspectors to oversee 65,000 producing oil and gas wells in the State. About 40 percent of the 112 employees of the Ohio Department of Natural Resources's Division of Oil and Gas were eliminated in the cuts.<sup>5</sup> In Texas, 100 inspectors oversee 360,000 wells, so that every inspector is responsible for more than 3,600 wells.

**State Regulation of Oilfield NORM.** Louisiana is the only State which has adopted regulations governing radioactive oilfield wastes. Two different sets of regulations address radioactive materials in produced water discharges and in oilfield equipment and facilities. Radium-226 and radium-228 are limited to 30 picoCuries/liter (pCi/l) each in discharges of produced water from permitted facilities. In addition, sites suspected of containing oilfield NORM are to be identified and surveyed. Those sites, facilities and equipment that exceed a specified exposure level cannot be transferred or sold until they are decontaminated. Standards for site decontamination are also specified in the rules.

Other States have proposed regulations or adopted guidances for the management of oilfield NORM wastes, or have surveyed sites and samples wastes. For example, the Texas Department of Health issued draft rules on February 28, 1991.<sup>6</sup> The Michigan Supervisor of Wells issued an advisory regarding oilfield NORM last December. See Exhibit E. The advisory warned operators that equipment exposed to oilfield brines "could be contaminated with radium-226 and pose a risk to workers or the general public if improperly handled." Exhibit E at 1 and 2. The advisory noted that tank bottom sediments "represent the highest level of naturally occurring radium-226 accumulation. . . Operators are advised to use extreme caution in handling this waste material." Exhibit E at 2. Kansas, Louisiana, Michigan, Mississippi, New Mexico and Wyoming are among the States that have conducted gamma radiation surveys or collected and analyzed oilfield waste samples for radium-226 and other naturally occurring radioactive materials.

Despite these initiatives, the inability of most States to develop comprehensive programs for radioactive E&P wastes is further compelling evidence of the need for and importance of a Federal program.

#### VI. MINIMUM ELEMENTS OF A FEDERAL PROGRAM

The Network urges Congress to impose stringent standards for the treatment, storage and disposal of oil and gas wastes in the RCRA reauthorization statute. A comprehensive RCRA program for oilfield wastes should include at least the following elements:

1. The statutory exemption from Subtitle C regulation should be lifted with respect to associated wastes.
2. The storage or disposal of produced water in pits or surface impoundments should be prohibited, unless the pits are lined in accordance with the minimum technology requirements of RCRA § 3004(o). Replacing pits with tanks will have both economic and environmental benefits.
3. The storage or disposal of drilling fluids that exhibit a characteristic of a hazardous waste in unlined surface impoundments or pits should be prohibited. An increasing number of operators have begun using a dewatering and recycling process

<sup>4</sup>Willard, D. J. Suit filed for well problems. *Star-Beacon* (Ashtabula, Ohio), August 3, 1991, page A11; and Barrett, J. Unicorn faces fine. *The Gazette* (Jefferson, Ohio), August 8, 1991.

<sup>5</sup>Kuehner, J. C. 29 oil and gas well inspectors laid off. *Cleveland Plain Dealer*, August 23, 1991.

<sup>6</sup>Texas Department of Health. Draft 2 of Texas Regulations for Control of Radiation, Part 46, "Licensing of Naturally Occurring Radioactive Materials (NORM)." February 28, 1991.

(called a "closed-loop system") to decrease the volume of drilling wastes generated. Use of such a system presents a significant opportunity for waste minimization in the oilfield.

4. EPA should be required to promulgate requirements applicable to the treatment, storage and disposal of radioactive oilfield wastes.

5. EPA and the States should be required to promulgate regulations to identify and provide for the remediation of abandoned oilfield waste facilities that are posing a threat to human health and the environment. Several States have "plugging and abandonment" funds which can be used for the plugging of improperly abandoned wells. However, in many cases the funds are inadequate because the funding mechanism is insufficient, or because the State legislature has "raided" the fund to cover budget shortfalls elsewhere in government.

6. Netting for pits and enclosed tanks should be required to protect wildlife from exposure to oilfield wastes. The U.S. Fish and Wildlife Service estimates that the cost of netting the average-sized pit is approximately \$60. Several States have adopted pit-netting requirements, but those rules do not apply to all pits, only those that are greater than 16 feet in diameter.

7. All discharges of produced water to streams, rivers, water courses and lakes should be prohibited, unless those discharges are subject to Clean Water Act permits that contain appropriate limits for at least the organic, radioactive, and chloride constituents of the produced water.

8. EPA should be required to strengthen the regulations that apply to underground injection of oilfield wastes to include (1) improved construction standards; (2) area of review requirements; (3) increased security measures to prevent improper disposal of hazardous wastes in Class II wells; and (4) improved record-keeping requirements.

9. The States should be required to upgrade their existing oilfield waste programs to meet the Federal minimum standards as a condition of Federal authorization to implement and enforce a RCRA program for oil and gas wastes.

I appreciate the opportunity to appear before you and present this testimony and supporting documentation. SRIC, the National Audubon Society, and other members of the National Citizens' Network stand ready to assist the subcommittee in its further deliberations on the need for a Federal oil and gas waste program under RCRA.

[Attachments to this statement have been retained in committee files.]

#### PREPARED STATEMENT OF W. TIMOTHY DOWD

Mr. Chairman and members of the committee, I am W. Timothy Dowd, Executive Director of the Interstate Oil and Gas Compact Commission. I am pleased to present the following comments on behalf of the Commission and its Chairman, Governor Norman Bangerter of Utah.

I am pleased to have been given the opportunity to present the views of the oil and gas producing States on the issue of protection of the environment and management of exploration and production waste from oil and gas operations. Because this has been a concern of the States for several decades, it is appropriate that the States address this issue through the Interstate Oil and Gas Compact Commission (IOGCC), an organization of the governors of 29 oil and gas producing States (a list of the States, the governors and their official representatives is attached as Appendix A).

There presently exists within each member State a regulatory agency that is directly concerned with, and regulates, the exploration and production of oil and gas and the disposition of the wastes which are a necessary byproduct. There are the wastes which you refer to as exploration and production (E&P) wastes.

We are prepared to demonstrate that these wastes are presently regulated and the environment is presently protected. A Federal program will be wasteful and burdensome and threaten the development of badly needed resources for this country. A Congressional mandate for burdensome Federal regulations on the States, will increase the cost of domestic oil and gas resources.

The petroleum industry has been producing oil and gas in the United States for more than one hundred and thirty years. Some aspects of the regulation of this industry go back more than sixty years. For the past thirty years, the environmental regulations adopted by the States, and presently in force, have been continuously strengthened and improved. There are more than eight hundred thousand well locations in the United States, ninety-nine percent of them in member States of the Interstate Oil and Gas Compact Commission (IOGCC). We are confident of the level

of regulation of these wastes within our States; further, we believe the governors of the oil and gas producing States would make a similar statement. The States are committed to the principle of wise resource development with due regard to the environment. Further, the States have the expertise and experience to supervise these environmental programs. More importantly, we are the friends and neighbors of the people these environmental rules are intended to protect. Utilizing the Environmental Protection Agency's (EPA) 1987 Report to Congress on the *Management of Wastes from Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy*, there were only sixty-two damage cases documented (roughly one in thirteen thousand) which indicates the effectiveness of current State regulatory programs. These State regulatory programs involve numerous State and local agencies and employ thousands of people nationwide.

The IOGCC agrees with the EPA's 1988 Regulatory Determination where exploration and production wastes were exempt from Subtitle C Regulation because, "(1) Subtitle C did not provide sufficient flexibility to consider costs and avoid the serious economic impacts that regulation would create for the industry's exploration and production operations; (2) Existing State and Federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. Regulatory gaps in the Clean Water Act and the UIC Program are already being addressed, and the remaining gaps in State and Federal regulatory programs can be effectively addressed by formulating requirements under Subtitle D of RCRA and by working with States; (3) Permitting delays would hinder new facilities, disrupting the search for new oil and gas deposits; (4) Subtitle C regulation of these wastes could severely strain existing Subtitle C facility capability; (5) it is impractical and inerrant to implement Subtitle C for all or some of these wastes because of the destruction and, in some cases, duplication of State authorities that administer programs through regulatory organization structures tailored to the oil and gas industry; and (6) it is impractical and inefficient to implement Subtitle C for all or some of these wastes because of the permitting burden that the regulatory agencies would incur if even a small percentage of these sites were considered Treatment, Storage and Disposal Facilities (TSDF)." The IOGCC would further add that we must be sure to base additional regulation on good science. Our Federal and State policymakers must demand credible evidence before instituting sweeping new regulatory programs. The industry and the consuming public deserve science-based policy.

We have become aware of the economic impact study done for the American Petroleum Institute showing that imposition of the provisions of S976 would result in massive losses of production, in fact, eight States would lose all of their production. We have not had an opportunity to investigate the methodology and to have an opinion as to the accuracy of this economic prediction, but should the study be half right, it indicates a loss far in excess of anything necessary to provide environmental protection.

As mentioned previously in this testimony, the IOGCC's member States have been responsible for regulating the oil and gas industry for more than sixty years and have been in the forefront in demonstrating the interest and ability of the State regulatory agencies to adequately protect human health and the environment while properly managing the nations' resources. Attached as Appendix B are nine resolutions dating back to 1986 in which the IOGCC governors and official representatives have addressed the issues of exploration and production wastes and RCRA Reauthorization.

In January 1989, the IOGCC began a project with the EPA to develop a report that would contain the elements necessary for an effective State regulatory program. This project was completed in December 1990. One copy of this report is submitted to the subcommittee for the record. We would be pleased to furnish additional copies as needed. The IOGCC is continuing to cooperate with the U.S. EPA in additional projects designed to improve and upgrade State regulatory programs where necessary. These projects include a collection of the States' regulations into a central database system; a training program designed to further educate State field inspection personnel in environmental issues; and a State review project where individual State regulatory programs are compared to the IOGCC report.

Some persons have publicly asserted that, because there is no Federal regulatory program for E&P wastes, these wastes are not currently regulated. This is simply untrue, and ignores the efforts made by State governments which are vigorously regulating and upgrading regulations where necessary to ensure the protection of human health and the environment. We would further add that the IOGCC's States do not see the need for a duplicative Federal regulatory program or a federally mandated program without proper funding for implementation. If the Congress feels it necessary to develop a Federal regulatory program for E&P wastes, it must be

built upon the strengths of the existing State regulatory programs. Failure to build upon the strengths will lead to duplication of effort and waste of resources on the State and Federal level.

The IOGCC's States support the exemption of exploration and production wastes from RCRA Subtitle C Classification. We support the EPA's Regulatory Determination and its definition and lists of exempt and nonexempt wastes. We also encourage proper disposal methods for any nonexempt wastes and recognize the need to test nonexempt wastes for hazardous characteristics which could require RCRA Subtitle C disposal methods.

In summary, the IOGCC's member States recommend that current State E&P waste management programs adequately protect human health and the environment. Additional regulation is necessary and duplicative.

I would like to once again thank the committee for this opportunity to provide information on State E&P waste regulatory programs and recognize your insight in conducting this hearing prior to formulating RCRA reauthorization legislation on exempt E&P wastes.

[Attachments to this statement have been retained in committee files.]

#### PREPARED STATEMENT OF DENISE A. BODE

The Independent Petroleum Association of America is the national association representing independent crude oil and natural gas explorers/producers. Together with 44 unaffiliated national, State, and regional associations, which join in these comments, we represent the 10,000 independent crude oil and natural gas wildcaters in the United States and the companies which provide services and supplies to the domestic industry. Independents operate in all 33 States that have oil and natural gas production, drill about 85 percent of all wells in the United States and account for almost one third of domestic crude oil, and about 60 percent of natural gas output. They range in size from large firms to very small, one-person ventures. But they all have one thing in common—the primary profit center for independents is the sale of oil and natural gas at the wellhead. The increased cost of compliance with any new environmental requirements cannot be passed on to consumers or allocated to other profit centers.

I welcome the opportunity to discuss the regulation of oil and natural gas wastes, particularly from the perspective of the majority of the industry which is the smaller independent oil and gas producer. As you consider questions of environmental policy, we believe it is absolutely vital to understand the contribution of the small oil and gas wells on our domestic energy security. Stripper wells, or wells that produce less than 10 barrels of oil or 60 Mcf of natural gas per day, make up 75 percent of all the producing wells in the United States. The production from domestic stripper wells exceeds this country's imports from Saudi Arabia, which is our largest importer.

With most of the world's oil reserves located in the Middle East, Americans have seen the danger of energy dependence vividly demonstrated in the Persian Gulf. Yet, as the war recedes in our memory, so too will the realization that the price we paid to liberate Kuwait was, in significant part, the cost of imported oil. Despite America's brilliant military victory in the Persian Gulf and our nation's greater influence in that troubled region of the world, independent oil producers remain concerned about the ability of OPEC to force, as it has in the recent past, the premature abandonment of existing U.S. oil production capacity by driving world oil prices below the cost of operating U.S. wells. A strong domestic oil and natural gas industry is our country's best defense against foreign governments using our oil dependence to influence U.S. economic and foreign policies.

The Administration spent more than a year preparing a National Energy Strategy designed to improve domestic energy security. The House and Senate will soon be debating comprehensive energy legislation designed to make effective use of America's energy resources. Ironically, at this time of bipartisan concern about energy security, some are urging Congress to amend RCRA in a way that would force hundreds of thousands of wells to shut in all across America and cause domestic energy production to further plummet.

At the same time, the domestic oil and natural gas industry continues to face difficult times. The industry's infrastructure virtually collapsed in the late 1980's. Today, the situation remains precarious: drilling rig utilization is only slightly above all-time lows, U.S. crude oil production is stalled near its lowest point since the early 1950's, and the seismic crew count, a leading indicator of future drilling activity, likewise is near record lows.

I can't overemphasize the importance of your deliberations in this area to the independent oil and gas producers. For many smaller domestic oil and gas producers, basic survival is at stake. Since 1986, the number of active drilling operations declined by about 50 percent. Since 1982, the drop is about two thirds.

The exploration and production of oil and gas is large and complex—utilizing over 1.25 million sites located throughout the country in a wide variety of physical, geological, and hydrological settings. The wastes of the industry are of high volume, but of very low toxicity, and are extensively and effectively regulated under existing Federal and State programs which take into account the diversity of local conditions. These regulatory programs are based on many years of experience and continue to evolve to meet current needs.

The special nature of oil and gas wastes was recognized by Congress in 1980 when it exempted such wastes from additional Federal regulation under RCRA and asked EPA to study both the wastes and existing waste management practices. In doing so, Congress recognized, among other things, the low toxicity of these wastes and the potential adverse impact on domestic energy security, employment, and the balance of trade which would result if additional Federal regulations were imposed.

Our message is simple. It is that oil and gas exploration and production wastes are being properly regulated under current rules and regulations at the State and Federal levels and that additional Federal regulation is not justified . . . certainly not RCRA Subtitle C regulation. The imposition of unnecessary regulation on the oil and gas industry would undermine the Nation's energy security by further weakening the domestic industry.

My testimony elaborates on three key points.

First, IPAA agrees with EPA's Report to Congress that petroleum exploration and production wastes rarely pose a significant threat to human health or the environment.

Second, IPAA also agrees with EPA that the current regulatory structure manages exploration and production wastes effectively and is capable of responding to newly identified needs.

Third, further Federal regulation is unnecessary and will have major cost and energy impacts, particularly on stripper wells.

#### I. EPA HAS STUDIED EXPLORATION AND PRODUCTION WASTES EXTENSIVELY AND CONCLUDED THAT WHEN MANAGED PROPERLY, THESE WASTES RARELY POSE A SIGNIFICANT THREAT TO HUMAN HEALTH OR THE ENVIRONMENT

The 1980 Amendments to RCRA included an exemption for wastes from oil, gas and geothermal exploration and production from the Subtitle C hazardous waste requirements. The exemption is specifically for drilling muds, produced waters and other wastes "associated" with exploration and production operations. Congress also directed EPA to study exploration and production wastes and recommend appropriate regulatory action to Congress. The EPA study was to include an analysis of:

- Source and volume of waste.
- Present disposal practices.
- Danger to human health and the environment.
- Documented cases of danger to human health and the environment.
- Alternative disposal methods.
- Impact of alternative disposal methods on exploration and production.

The EPA conducted an extensive two-year study and submitted a report to Congress on exploration and production wastes on December 22, 1987. EPA concluded that the wastes should retain the exemption from Subtitle C regulation and continue to be regulated by State agencies using Subtitle D and other authorities. EPA further concluded that the wastes do not pose a significant threat to human health and the environment when properly managed, and that for the most part, were adequately regulated by the States.

-EPA's finding that E&P wastes rarely pose a significant threat to human health and the environment emerged from EPA's investigation of the three primary hazard factors; concentration, mobility, and proximity.

To further illustrate the points about concentration, mobility and proximity, EPA said:

The presence of constituents in concentrations exceeding health-or environmental-based standards does not necessarily mean that these wastes pose significant risks to human health and the environment. In evaluating the risks to human health and the environment, several factors beyond the toxicity of the waste should be considered. These factors include the rate of release of contaminants from different management practices, the fate and



transport of these contaminants in the environment, and the potential for human health or ecological exposure to the contaminants.<sup>1</sup>

The 1980 RCRA amendments directed EPA to include in its study of E&P wastes the identification of examples of practices that caused environmental or health damage. A group of 228 damage cases were collected by EPA's contractor. However, many of the alleged damages cited by the contractor simply could not be validated when all records were reviewed.

A 1987 API study concluded that existing regulations covered 224 of 228 cases initially presented to EPA by its contractor. None of the damage cases documented an impact to human health. The EPA used this analysis to screen the 228 cases. This screening reduced the number of cases to 62 in EPA's final report to Congress.

EPA concluded that regulations under RCRA's hazardous waste provisions would be:

- Unnecessary because a large body of State and Federal laws already cover these wastes and because the Safe Drinking Water Act and the Clean Water Act "provide sufficient legal authority to handle most problems" these wastes pose.
- Impractical because administrative procedures and lengthy application processes for hazardous waste permits for drilling reserve pits would add hundreds of thousands of waste sites for regulatory tracking—with no real environmental benefit.
- Harmful to petroleum exploration and production; it could cause the U.S. oil and gas production to decline 18 percent by the year 2000 and 29 percent by 2010.
- Costly; it could cost consumers as much as \$6 billion annually. An independent study conducted by the American Petroleum Institute in 1987 projected that hazardous waste regulation under RCRA could cost the petroleum industry \$44 billion initially and \$5 billion annually, while reducing the number of wells drilled by 40 percent and causing the premature abandonment of over 150,000 wells (29 percent of the total).

## II. CURRENT STATE AND FEDERAL PROGRAMS EFFECTIVELY REGULATE EXPLORATION AND PRODUCTION WASTES

*(1) State regulatory programs reflect the diversity of local geographic conditions and environmental needs and have a long history of effectiveness.*

IPAA strongly agrees with EPA's conclusion in the regulatory determination that:

Existing State and Federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. Regulatory gaps in the Clean Water Act and UIC program are already being addressed, and the remaining gaps in State and Federal Regulatory programs can be effectively addressed by formulating requirements under Subtitle D of RCRA and by working with the States.<sup>2</sup>

The regulatory structure referred to by EPA has a long history of effectiveness. The States have been active in this area for over 70 years. For example, Oklahoma and Texas began regulations in this area in 1916 and 1919 respectively.

The States generally establish and implement specific performance standards and design specifications based on site-specific or regional differences in geology, hydrology, climate, and waste characteristics. Fundamental differences exist in terms of climate, hydrology, geology economics, and method of operation, which may impact on the manner in which oil and gas exploration, development and production is performed. State oil and gas programs do, and should, vary from State to State and within portions of a State.

A typical State program regulating the management of E&P wastes will contain many elements including:

- Statutory authority which adequately details the powers and duties of the regulatory body;
- Statutory authority to promulgate appropriate rules and regulations;
- Statutes and implementing regulations which adequately define necessary terminology;
- Provisions to adequately fund and staff the program;
- Mechanisms for coordination among the public, government agencies and regulated industry; and

<sup>1</sup>EPA's 1988 "Regulatory Determination for Oil and Gas and Geothermal, Exploration and Production Wastes", page 29.

<sup>2</sup>EPA's 1988 "Regulatory Determination for Oil and Gas Geothermal, Exploration and Production Wastes", page 4.

- Technical criteria for E&P waste management practices that address pits, land applications, centralized and commercial facilities.

The States have continued to develop regulations designed to protect the environment unique to their jurisdiction. For example:

- Texas updated Rule 13 in 1983 to contain specific cementing criteria to ensure protection of groundwater. A State well plugging fund was established in 1983. Rule 8 was revised in 1984 to contain a "no pit order" meaning production pits are unlawful and can only be constructed after public notice and a hearing. Texas recently passed legislation to establish oilfield cleanup funds with the revenues to come from wellhead taxes and increased fees.

- Oklahoma passed oilfield cleanup regulations similar to Texas. Between 1987 and 1991, the Oklahoma Corporation Commission wrote or revised over 30 rules on E&P environmental regulation.

- West Virginia adopted a permit requirement for drilling mud reserve pits that require detailed layout, construction, closure and remediation plans.

- Montana has significantly rewritten their E&P environmental rules to include fencing and screening of some pits, disposal of trash in licensed facilities, reserve pit closure requirements, reserve pit liners when salt or oil based muds are used, and disposal requirements for drilling muds.

- Louisiana established Order 29-B, its environmental regulation, in 1943. The regulation first dealt with environmental control of E&P underground injection wells. Between 1943 and 1980, Order 29-B was amended over 30 times. Since 1985, major regulatory improvements have been established in the areas of commercial facilities, onsite disposal, abandoned oilfield waste site law and coastal zone pits.

(2) *Federal regulation administered by EPA and the States is extensive and regulates almost 97 percent of the total volume of oil and gas wastes.*

1. *The Safe Drinking Water Act.* The Safe Drinking Water Act contains the Underground Injection Control (UIC) program which establishes minimum requirements for State, tribal, and Federal programs for controlling all injection activities in a manner that protects underground sources of drink water (USDW). It also provides mechanisms for implementation and delegation of primary enforcement authority. The UIC program is administered either directly by EPA or by the States under programs approved by EPA. The first State to achieve primacy was Oklahoma in 1981. Since then, 35 States have achieved full primacy for the UIC programs. E&P operations that fall under the UIC regulations are all produced water injected for disposal and all water reinjected to increase oil recovery from producing zones (secondary or enhanced recovery).

Some of the major UIC program requirements include:

- casing and cementing to prevent movement of fluid into or between USDWs
- assurance that the owner or operator will maintain financial responsibility to properly plug and abandon the well

- a maximum operating pressure to avoid fractures in the confining zones

- monitoring and reporting requirements

- mechanical integrity testing at least every 5 years

- permits are required for injection and are issued for a limited period of time, and must be reviewed at least once every five years

- existing wells must have a mechanical integrity test if the tubing is disturbed

- monitoring and reporting of injection pressure, annulus pressure, flow rate, and volume is required

- reporting of noncompliance, ownership changes, well rework, mechanical integrity testing, and plug abandonment are required.

For a State or tribal UIC program to be approved by EPA for primary regulatory authority, the elements listed above or their equivalent must be in the program.

2. *The Clean Water Act.* The Federal Clean Water Act (CWA) has several requirements applicable to oil and gas operations. The National Pollutant Discharge Elimination System (NPDES) permit program controls surface discharges of waste waters into the streams of the U.S. The Spill Prevention Control and Countermeasure (SPCC) program of the CWA has requirements for spill prevention, containment and reporting. The NPDES portion of the Clean Water Act establishes a permitting system and Best Practicable Technology (BPT), controls for all discharges to waters of the United States, including intermittent streams and wetlands. EPA has determined that BPT for onshore E&P operations to be "no discharge". Exceptions to the "no discharge" limitation are beneficial for agricultural or wildlife use. There are also exemptions for marginal (stripper) wells—wells that produce low volumes of oil. There are areas, primarily in California and Wyoming, where the water produced with the oil production has a low salinity, and where the produced water has his-

torically been used for beneficial purposes. In some cases, these waters are the sole water sources for farming, cattle, or wildlife use. These uses also require NPDES permits. Recent EPA regulations will restrict or prohibit discharges to coastal waters. All offshore (OCS) discharges require NPDES permits. The NPDES permits contain BPT discharge limitations, including oil and grease limits.

The Clean Water Act also requires Spill Prevention, Control and Countermeasure (SPCC) plans for all E&P facilities where a spill could reach waters of the United States. Plan requirements include providing secondary containment to contain the volume of the largest tank in the event of a tank spill, and certification of the plan by a registered professional engineer. At this time, EPA is reviewing the SPCC program.

3. *Resource Conservation and Recovery Act.* As noted earlier, the oil and gas E&P industry does not have a "blanket exemption" from RCRA. Only specified wastes are currently exempt from regulation under Subtitle C. The exempt wastes are drilling muds and cuttings, produced water, and certain wastes uniquely "associated" with the production of oil and gas. Those wastes not unique to oil and gas operations fall under the RCRA permitting and handling requirements in the same manner as all other industrial wastes of a similar nature. For example, spent solvents, paint wastes, used crankcase and lubrication oil, used engine oil filters, empty chemical drums, unused well stimulation fluids and various other items such as construction debris. They are all subject to the requirement of RCRA and if hazardous, must be managed under Subtitle C like all other industrial hazardous wastes.

RCRA Subtitle D gives States the authority to regulate management of nonhazardous wastes. These include those oil and gas E&P wastes specifically exempted from Subtitle C regulation; produced water, drilling muds, and associated wastes. It includes permitting authority for wells, pits and other facilities and regulations for the management and disposal of drilling muds and cuttings.

(3) *Current programs are continuing to improve based on newly identified needs. This process is overseen by EPA and participated in by technical experts in environmental programs from the States, industry and the environmental community.*

1. *The Interstate Oil and Gas Compact Commission (IOGCC) recommended standards for State programs.* While the EPA's Regulatory Determination dated June 30, 1988 found that existing State and Federal programs were generally adequate to control oil and gas wastes, some regulatory gaps were identified. To plug the gaps, EPA funded an effort by the IOGCC to develop a model regulatory program for oil and gas exploration and production wastes. The IOGCC is an organization comprised of the Governors (or their representatives) from 29 oil and gas producing States.

Funded by a two year \$300,000, grant from EPA, the IOGCC formed the Council on Regulatory Needs in January, 1989 to identify methods to improve E & P waste management. The council was co-chaired by Governors George A. Sinner of North Dakota and Garrey Carruthers of New Mexico. This joint effort by IOGCC/EPA also included representatives from State regulatory agencies, industry, environmental groups, and the Department of Energy. The Council immediately undertook a two-year study to develop guidelines and standards for State E & P waste management. The Council produced a final report in December 1990 that was intended to:

- establish a baseline of performance for State E & P waste management
- demonstrate a commitment to environmental improvement shared by State governments, EPA, environmental groups and industry
- serve as a model for future efforts to deal with complex oil and gas related environmental issues
- serve as a resource document for information on all State E & P waste regulatory programs. The IOGCC report identifies administrative and technical criteria for managing E & P wastes and outlines the need for clearly defined statutory authority and adequate levels of funding and staffing.

The report encourages States to establish and implement specific performance standards and design specifications based on site specific or regional differences in geology, hydrology, climate, and waste characteristics.

IOGCC has begun to take steps toward improving State E & P waste management plans along the lines suggested in their report. Aided by funding from EPA, IOGCC has three projects currently underway:

- Establishment of a data base encompassing all State E & P waste management regulations;
- A training program for State oil and gas regulators; and

● A peer review of State regulatory programs, including the development of a comprehensive checklist and an on the ground evaluation of practices. The first State to be reviewed was Wyoming.

As an expression of commitment to the report's goals, the IOGCC's March 1991 executive meeting passed a resolution recommending that States proceed to evaluate their own regulations. Some individual States, including New Mexico, Montana, and Louisiana, have already initiated such reviews.

The oil and gas industry supports this process because these experts have the technical knowledge and understanding of specific geological and environmental conditions in their State and are therefore in the best position to evaluate regulatory practices and recommend change.

2. *EPA's Federal Advisory Committee for Underground Injection Control*<sup>1</sup>—Class II Wells is an ongoing effort aimed at improving the UIC program.

In addition to the work of the IOGCC, EPA has also established an advisory group to provide substantive and administrative recommendations concerning the UIC program. The committee includes members from environmental groups, industry, and other Federal Agencies (DOE and BLM), and State regulatory agencies. The Committee works via monthly face-to-face meetings to reach agreement on the best options—based on technical, economic, and human health requirements concerning changes in the operation of the UIC program. The Committee may recommend specific language for proposed guidance and regulations under Part C of the Safe Drinking Water Act. IPAA is an industry representative in this group and strongly supports this process.

### III. FURTHER FEDERAL REGULATION OF OIL AND GAS WASTES UNDER RCRA IS UNNECESSARY AND WILL HAVE MAJOR COST AND ENERGY IMPACTS, PARTICULARLY ON STRIPPER WELLS

Additional regulation of oil and gas wastes under the Resource Conservation and Recovery Act (RCRA) would have serious energy and economic consequences for the oil industry and the nation. This impact would be particularly severe for the smaller producers.

In EPA's report to Congress various regulatory scenarios were analyzed which resulted in costs to the industry ranging from billions to tens of billions of dollars. Obviously costs of this magnitude will drive many producers out of business, cause domestic production to diminish substantially and increase the nation's dependence on imports unnecessarily. An industry study conducted by the American Petroleum Institute in 1987 projected that hazardous waste regulation under RCRA could cost the petroleum industry \$44 billion initially and \$5 billion annually, while reducing the number of wells drilled by 40 percent and causing the premature abandonment of over 150,000 wells (29 percent of the total).

More recently a 1990 study of environmental regulations by the Department of Energy (DOE) confirmed EPA's findings. DOE estimates the high cost estimate for additional regulation under RCRA reached approximately \$25 billion initially and nearly \$2 billion annually.

In addition, a study just completed by Gruy Engineering Corporation for API analyzes the impact of Subtitle D requirements on exploration and production. This study shows over 80 percent of existing oil wells and 75 percent of existing gas wells would be shut in.

Although the assumptions differ somewhat on the major studies that have been done, it seems clear that most stripper wells would be shut in by the hazardous waste requirements of Subtitle C or the Subtitle D nonhazardous requirements that may be made more stringent.

As a result, the impact would fall more heavily on small oil and gas producers in certain States.

Figure 1 shows those States where stripper wells (production of less than 10 barrels per day) make up more than 50 percent of the total production for that State. The States listed below have particularly high percentages of production from stripper wells:

Virginia.....	100 percent
Indiana.....	100 percent
West Virginia.....	99 percent
Pennsylvania.....	96 percent
Illinois.....	90 percent
New York.....	87 percent
Tennessee.....	86 percent
Missouri.....	85 percent

Kansas .....	83 percent
Kentucky .....	80 percent
Ohio .....	73 percent
Oklahoma .....	70 percent

Table 1 shows the wellhead value of crude oil from stripper wells. The number of producing stripper oil wells, stripper well reserves and the number of employees in E & P operations attributable to stripper wells by State. These wells and reserves would be particularly vulnerable to burdensome new requirements. Complete State profiles are attached in Appendix 1.

Table 1.—The Energy and Economic Role of Stripper Wells

(By State)

State	(1) Wellhead value of stripper crude oil (thous. \$)	(2) Number of producing stripper oil wells	(3) Stripper oil reserves (thous. bbls.)	(4) Percent of oil production from stripper wells	(5) Total number of employ- ees—oil and gas extraction	(6) Estim- ated employ- ment effect
Arkansas.....	114,017	7,428	150,829	58	2,540	1,473
Illinois.....	337,953	34,417	99,120	90	3,136	2,822
Indiana.....	60,794	6,281	37,300	100	463	463
Kansas.....	839,718	45,559	256,680	83	8,141	6,757
Missouri.....	2,045	668	1,934	85	75	64
New York.....	7,638	3,968	1,566	87	1,618	1,408
Ohio.....	134,076	29,634	63,409	73	5,790	4,227
Oklahoma.....	1,488,944	70,741	390,750	70	40,736	28,515
Pennsylvania.....	47,226	22,338	41,563	96	3,700	3,552
Tennessee.....	8,228	839	595	86	248	213
Virginia.....	387	44	78	100	266	266
West Virginia.....	38,200	15,970	30,305	99	4,500	4,455
Louisiana.....	136,257	14,788	110,710	2	52,700	1,054
New Mexico.....	255,562	15,050	97,880	21	8,529	1,791
California.....	523,867	25,828	205,167	10	31,367	3,137
Colorado.....	112,772	6,357	60,466	20	12,325	2,465
Wyoming.....	90,148	2,982	145,750	5	8,228	411
Arizona.....	468	13	98	19	114	22
Alabama.....	25,220	498	597	7	1,961	137
Michigan.....	56,692	3,110	47,062	15	4,090	614
Mississippi.....	12,029	561	14,080	3	5,375	161
Montana.....	41,683	3,116	33,544	12	1,712	205
Nebraska.....	36,642	1,247	19,730	34	462	157
North Dakota.....	32,961	1,180	66,260	5	2,541	127
South Dakota.....	957	24	407	3	109	3
Utah.....	17,237	897	24,010	3	1,891	57
Other States.....	0	0	0	0	13,943	0
Total U.S. ....	6,132,615	452,589	3,720,013	14	377,631	52,868

Sources: (1) Department of Energy; (2), (3) & (4) National Stripper Well Association; (5) Bureau of Labor Statistics; (6) Employment effect is estimated by multiplying the number of oil and gas extraction employees (5) by percentage of oil production from stripper wells (4). Since data is not available for the number of oil extraction employees separately, the oil and gas total is used as a reasonable estimate.  
Note: 1989 data used because it is the latest available stripper well information. Other States include Florida, Maryland, Nevada, Oregon and Alaska.

To further illustrate the regional impact, the Appalachian Energy Group, a group of nine oil and gas trade organizations in the seven States that comprise the Appalachian Basin, recently did a survey to determine the impact of increased operating and maintenance costs on the economic viability of 20,000 stripper wells in the region.

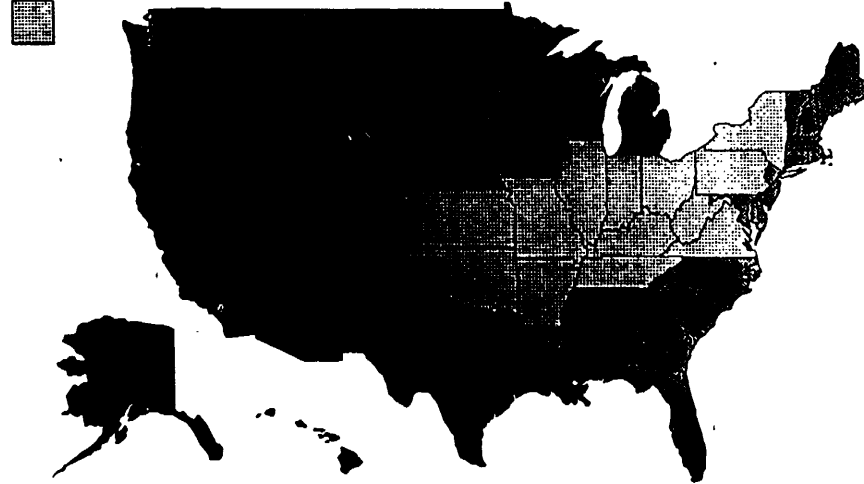
The principal results of this survey are as follows:

Increased annual costs	Percent of wells that would be rendered uneconomical
\$200.00.....	23
500.00.....	28
1,000.00.....	31
2,000.00.....	41
5,000.00.....	49
10,000.00.....	55
25,000.00.....	62

Thus, even very minor cost increases would result in a significant impact on the overall economic viability of Appalachian operations.

This would result in a great many wells being forced to be plugged and abandoned, not only depriving the region and the Nation of the loss of the production from those wells, but also causing operators to incur extremely significant financial obligations related to the plugging and abandonment of those wells. By their estimate, a cost increase of only \$200 a year would result in some 46,000 wells in all Appalachian States being forced into plugging and abandonment, causing operators to incur plugging liabilities in excess of \$46 million. The economic impact of any new regulatory requirements on Appalachian production will be extremely significant.

Figure 1  
**States with 50% or more Stripper Well Production**



**% of Total Crude Oil Output produced by Stripper Wells**

Arkansas 58%	Kentucky 80%	Ohio 73%	Tennessee 86%
Illinois 90%	Missouri 85%	Oklahoma 70%	Virginia 100%
Indiana 100%	New York 87%	Pennsylvania 96%	W. Virginia 99%
Kansas 83%			

Source: National Stripper Well Association

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Were such an impact justified by the need to protect human health and the environment, the public policy issues involved might be more clouded. Here, however, the environmental impact of the oil and gas industry is very carefully regulated and controlled. Existing State and Federal regulatory programs are working in a way that protects the environment and assures the economic viability of the industry. Accordingly, there is neither environmental nor economic justification for modifying RCRA in a way that would eliminate or change the current scope of the oil and gas hazardous waste regulatory exemption.

#### IV. CONCLUSION

The real issue to be considered by Congress is this: what regulatory structure best provides for environmentally and economically sound management of oil and gas exploration and production wastes? To answer that question IPAA would make the following points:

- IPAA strongly supports the conclusion of EPA's report to Congress that existing Federal and State programs effectively regulate oil and gas waste.

- The oil and gas industry, from the smallest independent producer to the largest integrated company, is united in the belief that exploration and production wastes should retain the exemption from Subtitle C regulation and continue to be regulated by State agencies using current Federal and State authorities.

- We support the IOGCC's on-going effort to improve State regulatory programs.

- A Congressional determination that oil and gas production wastes should be regulated as hazardous would run contrary to the basic themes of the administration's National Energy Strategy, since it would force many producers out of business, cause thousands of marginal wells to be shut in, diminish domestic production dramatically, and increase substantially our dependence on imported energy.

- The application of RCRA to some or all production wastes will not discernably improve the environment beyond what the existing regulatory structure can do and will overwhelm the capacity of existing RCRA waste facilities.

We appreciate this opportunity to testify.

[Attachments to this statement have been retained in committee files.]

#### PREPARED STATEMENT OF WILLIAM A. FONTENOT

My name is William A. Fontenot. I have worked as the Environmental Specialist with the Louisiana Department of Justice for the past 13 years. Today I am representing Attorney General William J. Guste, Jr. who has served as Louisiana's Attorney General for the last twenty years.

Attorney General Guste has been active with many cases involving oil and gas waste. I have also worked with dozens of State and Federal agencies, local and State officials, citizens groups, and managers and employees of companies involved with oil and gas exploration and production. Without question, wastes from the exploration, drilling and production of oil and gas represents one of the most serious and widespread environmental problems in Louisiana.

In 1988 Attorney General Guste wrote to the Administrator of the Environmental Protection Agency, EPA, clearly stating that those hazardous wastes which are generated during oil and gas activities should be regulated as hazardous wastes. This remains his opinion today.

Attorney General Guste pointed out that existing State programs, laws and regulations covering oil and gas wastes have improved in recent years but, existing laws and programs are far from adequate to control oil field wastes. Disposal practices are still allowed, which according to EPA, can and will cause serious damage to human health and the environment.

These current dangerous disposal practices apply to both hazardous and non hazardous oil field wastes.

Without minimum Federal standards, regulations and oversight, the various State regulatory agencies will never adequately control the billions of gallons of hazardous and non hazardous oil field wastes that are generated in the U.S. every year.

Five years ago Louisiana regulations were changed and there were some improvements over past requirements. Unfortunately these regulations are still far from adequate. They continue to allow use of unlined waste pits, discharges of untreated wastes into coastal waters and wetlands, annular disposal and a number of other questionable practices. This year the Louisiana Department of Environmental Quality adopted new regulations to phase out untreated waste discharges into coastal waters.



There have also been a number of instances where the public has been denied access to State agency actions, and the agency (DNR) has issued permits or allowed disposal practices in violation of its' own regulations.

The Louisiana Office of Conservation is the agency which has primary responsibility for regulating oil and gas wastes. The agency does not have any money, equipment or trained employees to sample and analyze the billions of gallons of oil field waste which are generated in our State every year. The agency relies exclusively on industry generated data.

RCRA hazardous waste has been disposed at "non hazardous waste" facilities. Employees at "non hazardous" waste disposal facilities have become sick and overcome by chemical fumes while handling wastes which were labelled "non hazardous" oil field waste which was shipped by barge from another State.

Louisiana has a good manifest system for all oil and gas waste. Last year a shipment of waste from Alabama was listed under EXXON's New Orleans address rather than the Alabama gas facility. When we asked the State regulatory agency for a copy of the manifest, there was no record of the shipment. According to the division staff, they asked the major oil companies not to comply with the manifest requirements because the State employees couldn't handle the paperwork.

Louisiana is the first State to regulate radioactive material which is present in salt water and pipe scale associated with oil and gas production. Industry has been asked to sample and report on sites which are contaminated with radioactive material. So far almost 1,000 sites have been identified in the State. Recent statements by representatives of the Department of Environmental Quality indicate that they feel as many as 10,000 locations in Louisiana may be contaminated with this naturally occurring radioactive waste.

We understand there is only one facility in Utah which is permitted to handle some of the oil and gas wastes which are contaminated with low levels of naturally occurring radioactive waste.

Without adequate Federal laws, dirt, and other materials, which is contaminated with hazardous, or radioactive, waste from oil and gas operations can be easily shipped across State boundaries and handled as solid waste or "fill" dirt.

Clearly, present law is not adequate to protect human health and the environment.

#### PREPARED STATEMENT OF RICHARD DE J. OSBORNE

Good morning, Mr. Chairman and members of the subcommittee. My name is Richard de J. Osborne. I am Chairman, President and Chief Executive Officer of ASARCO Incorporated, and I am testifying today on behalf of the more than 350 member companies of the American Mining Congress (AMC). Asarco is one of this country's principal American nonferrous mining and mineral processing companies. Thank you for inviting AMC to testify on the reauthorization of the Resource Conservation and Recovery Act (RCRA). Because of the crucial importance to my company and industry of the development of RCRA regulations governing mining industry waste management practices, I have come to Washington personally to testify before two subcommittees of Congress.

The American Mining Congress is an industry association that encompasses (1) producers of most of America's metals, coal and industrial and agricultural minerals; (2) manufacturers of mining and mineral processing machinery, equipment and supplies; and (3) engineering and consulting firms and financial institutions that serve the mining industry.

#### OVERVIEW OF THE TESTIMONY

AMC believes it is time for the Congress to clarify the proper roles and responsibilities of the Environmental Protection Agency (EPA or Agency) and the States in regulating and mining and mineral processing wastes (hereinafter referred to as "mining industry wastes") under RCRA. In today's testimony, we want to make four principal points about the desired form of these needed amendments to RCRA:

(1) The legislation should ensure protection of health and the environment. This should be done in the least cost manner possible to minimize the adverse impacts of any new regulation on the industry's competitiveness in world markets.

(2) As EPA twice determined, uniform regulation of mining industry wastes as hazardous under RCRA Subtitle C is not warranted. (The U.S. Court of Appeals for the District of Columbia Circuit unanimously affirmed EPA's mine waste regulatory determination.)

(3) The new legislation should reflect these regulatory determinations, the court decision and advances in State mining waste regulatory programs by amending Subtitle D of RCRA to provide for a site-specific, waste-specific State-based regulatory program for mining industry wastes.

(4) The new legislation should build upon existing State programs, not supersede them as would the so-called Strawman II staff draft. In many respects Strawman II is inconsistent with the approach recommended her and accordingly, Congress should repudiate Strawman II.

#### BACKGROUND

The issue of future Federal mining waste regulations is one of the top priorities for our industry. During the last 10 years, AMC and its member companies have worked with EPA and State regulators to study mining and mineral processing wastes to determine the most appropriate methods for reducing wastes where feasible and for managing the waste material that could not be reduced. These efforts have resulted in two extensive studies and reports to Congress by EPA—one on mining wastes and the second on mineral processing wastes—and two separate determinations by EPA Administrators that regulation of these wastes as hazardous under Subtitle C of RCRA is not warranted. Specifically, EPA concluded that Subtitle C "hazardous waste management standards are likely to be environmentally unnecessary, technically infeasible or economically impracticable when applied to mining waste." This determination was challenged, but was upheld by unanimous opinion of the U.S. Court of Appeals in *EDF v. EPA*, 852 F.2d 1309 (D.C. Cir. 1988).

Thereafter, the Agency initiated processes that have led to the development of two sets of staff regulatory proposals—Strawman I and Strawman II—and to the creation of the Policy dialog Committee (PDC). The primary function of the PDC is to attempt to resolve remaining issues between EPA, State regulators, environmental groups and industry representatives for regulating mine wastes.

During the same period, AMC and its member companies have worked with EPA and the States on the development of comprehensive regulations for air and water pollution control for mining and mineral processing operations. In addition, we have seen State legislators and regulators enact new State laws and rules to regulate mining, mineral processing and waste management at those operations.

Now we believe it is time for the Congress to act to clarify the appropriate roles for EPA and the States to take in regulating mining industry wastes under RCRA. We hope that Congress will base its action on all that we have learned as a result of the studies and determination process that the Congress itself required. (The industry is also concerned with various other aspects of RCRA reauthorization, and this written testimony will touch briefly on a few of the other major RCRA issues facing this committee.)

#### *Health and Environment Should Be Protected, But in the Least Costly Way Possible to Minimize Adverse Effects on Competitiveness*

This point need little elaboration. The new amendments to RCRA should ensure protection of health and environment in regulating mining industry wastes. However, this should be done in the least costly way possible. The mining industry operates in world markets with prices of nonferrous metals and minerals determined by international metal exchanges. In short, we are price takers, not makers. We cannot pass along regulatory costs to consumers at will. Effective competition depends on keeping production costs as low as possible. Thus, it is particularly important for government to take industry's competitive position into account in fashioning legislative and regulatory programs when, as here, cost competitiveness is critical to survival of the domestic industry.

#### *Mining Industry Wastes Are Unique and Thus Cannot Appropriately Be Regulated Under Subtitle C of RCRA*

As a result of the studies, analysis and regulatory determinations previously described, EPA concluded that regulation of mining and mineral processing wastes as hazardous waste under Subtitle C of RCRA is not warranted, because of the unique attributes of mining industry practices, circumstances and wastes:

- extremely high volumes of waste are inevitably produced from extraction, beneficiation and processing of ores and minerals, and these wastes generally have low toxicity;
- the volume of waste typically generated by mining industry operations, in relation to volumes and values of materials produced, are so large (and the cost of regulations under Subtitle C would be so unreasonably high) as to warrant different reg-

ulatory treatment from that accorded chemical, manufacturing and municipal wastes;

- the great variability in the composition of ores, the different types of mining practices and waste streams associated with different ore bodies, and the considerable differences in site conditions among industry waste management facilities result in varied potential for risks to human health and the environment from site to site; and

- the States historically, and even more so currently, have played a critically important leadership role in the regulation of this industry and its wastes, and it is appropriate that this primary role of the States be preserved.

Congress' recognition of these differences goes back to 1976, with the first requirement (RCRA Section 8002(f)) for a "detailed and comprehensive study" of mining waste. In 1980, with the Bevill Amendment, Congress renewed and expanded its call for a study of the "materials generated from the extraction, beneficiation and processing of ores and minerals. . . ." At the same time, Congress suspended Subtitle C regulation of such wastes until EPA completed the studies, reported to Congress on those studies and determined whether or not those wastes warranted Subtitle C regulation. In 1984, in Section 3004(x) of the Hazardous and Solid Waste Amendments, Congress again recognized that because of the nature and volumes of mining industry wastes, along with site-specific characteristics and the practical difficulties of implementing detailed legislative and regulatory requirements under Subtitle C, these wastes were substantially different from other wastes regulated under that Subtitle.

The agency's recognition of these differences began with its first report to Congress in December 1985, on wastes from the extraction and beneficiation of ores and minerals. Following several public hearings and the submission of voluminous written comments on that report, EPA announced in July 1986 that it had determined that regulation of these wastes "under Subtitle C is not warranted at this time." By deciding to develop a separate program for mining wastes under Subtitle D, EPA also recognized substantial differences between this industry's wastes and other Subtitle D wastes. On the matter of waste volume, EPA explained:

The fact that most of the material handled in mining is waste and not marketable product distinguishes mining from many other process industries where waste materials make up a relatively small portion of the materials used to produce a final product. Consequently, some of the larger mining operations handle more materials and generate more waste than many entire industries (51 FR 24497-98 (July 3, 1986)).

The importance of site specific characteristics for this industry's operations, including waste management practices, was another prominent feature of the EPA determination: ". . . site selection for mines, as well as associated beneficiation and waste disposal activities, is the single most important factor affecting environmental quality in the mining industry." *Id.* (emphasis added). Yet mine siting options, unlike those for other industrial or municipal operations, are extremely limited. The mine must be located where the minerals are and this limits waste management and disposal options. Furthermore, mines and mine waste management sites generally are located in drier climates, with groundwater at greater depth, in less densely populated areas and at greater distance from drinking water receptors than most hazardous waste management sites; as a result potential risks are mitigated.

The new amendments to RCRA should reflect and endorse the results of these congressionally mandated EPA studies and regulatory determinations on mining industry wastes. EPA specifically found that regulation of these wastes under uniform Federal hazardous waste regulations is not warranted, because:

- mining industry wastes are generally high volume and low toxicity;
- the \$800 million potential cost of applying uniform Federal hazardous waste regulations under Subtitle C to mining wastes would be excessive;
- such regulation would in many respects be "technically infeasible" for the mining industry and unnecessary to protect health and the environment.

Accordingly, mining industry wastes should be regulated under a revised version of Subtitle D of RCRA, rather than under Subtitle C.

*Subtitle D of RCRA Should Be Amended to Provide for a Site-Specific, Waste-Specific, State-Based Mining Industry Waste Regulatory Program With Appropriate Guidance and Backup By EPA*

While Subtitle D of RCRA does not presently provide an entirely adequate legislative framework for regulating mining industry wastes, it can and should be amended to do so. In keeping with EPA's studies and regulatory determinations, the new

amendments should also reject a uniform Federal regulatory approach in Subtitle D. Instead, they should provide for site-specific, waste-specific State-based mine waste regulatory programs, with carefully defined guidance and backup by authority for EPA.

How might such a program work in practices and what amendments would be necessary to effectuate such a program?

#### SPECIFIC LEGISLATIVE RECOMMENDATIONS

First, certain specific objectives should be added to the existing RCRA objective of protection of health and the environment. These would include encouragement of the maximum use of available mineral reserves and conservation of mineral resources through appropriate recycling and reuse. Appropriate legislation should also include the objectives of assuring appropriate mine waste management methods, encouraging resource conservation and recovery, and establishing a State/Federal partnership for regulating the management of mining industry wastes with the States having primary responsibility under a flexible system of Federal guidelines.

Second, appropriate legislation would:

- add to Section 4002 provisions requiring EPA to adopt guidelines to assist the States in developing and adopting regulatory plans for this industry's waste management practices (referred to from here on as "mining waste plans");
- add to Section 4003 provisions requiring States to develop, and submit to EPA for approval, mining waste plans that would have to include the types of regulatory measures listed in the section, including a facility permitting procedure;
- add to Section 4007 provisions prescribing how EPA is to approve State mining waste plans and the revisions of such plans, and how (and in what circumstances) EPA is to adopt a mining waste plan for any State that does not have an approved plan—whether because the State has not submitted an approvable plan or has had its approval revoked.

The underlying principle of such amendments, consistent with the overall design of Subtitle D, should be that the States would continue to have primary responsibility for the regulation of mining industry wastes. EPA's role should be, first, to bring together the considerable body of knowledge already developed through the Bevill Amendment studies and reports and to establish guidelines that the States would consider in adopting mining waste plans that have the flexibility necessary to address the particular circumstances of individual facilities. Second, these guidelines would include general mining waste criteria that are scientifically based or based on real world experience and that are descriptive rather than prescriptive (i.e., these would be performance criteria, not design criteria). Each State would have to consider these criteria in its permitting process.

EPA's guidelines should not use pollution prevention concepts to allow Federal Government specification of basic production processes. Nor should these Federal guidelines specify techniques, feedstocks, or other materials to be used in mining industry operations. This would be inappropriate and unnecessary governmental intrusion into basic production processes of the industry.

Third, EPA would review and approve or disapprove State plans based on their consistency with the requirements of the amended Section 4002. Those requirements would include properly adopted State legal authority, an enforceable permit procedure, appropriate groundwater monitoring measures, measures regarding proper closure and postclosure care, necessary remedial actions and plan revisions. EPA would be authorized and directed to disapprove State mining waste plans, or portions thereof, that do not meet the Section 4003 requirements and to adopt its own plan or partial plan, as necessary, for States with deficient plans. In adopting such a plan, EPA would be required to follow the requirements of Section 4003. A reasonable alternative, discussed in recent Policy dialog Committee meetings, would be to authorize EPA, in the case of a partially deficient State mining waste plan, to grant conditional approval of the State plan on the stipulation that deficiencies would be corrected within a reasonable, specified period of time.

Such amendments involving State mining waste plans are conceptually different from the uniform scheme of regulations mandated by Subtitle C of RCRA. The intent should be to have EPA assist the States in achieving environmentally protective results without dictating how the States are to run their programs or how facilities are to manage wastes. EPA guidelines would expressly recognize the States' responsibility to adopt varying measures to reflect different specific site characteristics, different ore bodies, mining and waste management practices, and different environmental values to be protected. Whereas an "authorized State" under Subtitle C essentially carries out the uniform Federal program established by, and delegated from, EPA, under an appropriate mining waste amendment to Subtitle D a State

would design and carry out an approved plan that would contain varying requirements to reflect varying site and waste-specific factors. The nationwide uniformity and governmental redundancy designed into the Subtitle C rules have been found by EPA neither to be necessary nor appropriate where mining industry wastes are concerned.

Fourth, appropriate legislation would also provide authority for EPA:

- to enter the premises of mining waste management facilities to inspect, examine and copy records, and to take samples; and
- to request and obtain certain information from a facility owner or operator.

This right to enter and gather information would be for the express purposes of (1) auditing the implementation of an approved State program, or (2) developing a Federal mining waste plan for States that did not have an approved mining waste plan, issuing a Federal permit under such a Federal plan or enforcing either the Federal plan or Federal permit. Information obtained would generally be available to the public, but certain types of proprietary business information should be kept confidential consistent with the nondisclosure provisions currently in RCRA.

These additional authorities would be appropriate because there is at present no inspection or information-gathering authority for EPA in Subtitle D of RCRA. These added powers should be tailored to fit the appropriate role for EPA—to assist States to adopt and implement mining waste plans that will protect health and the environment under the specific conditions of each State and site while serving as a backup for those States that fail to adopt or implement such plans.

Fifth, where no approved State mining waste plan existed, appropriate legislation would grant EPA authority:

- to establish a Federal mining waste plan for that State and issue appropriate site-specific permits under that plan;
- to enforce Federal mining waste permits and requirements of a Federal mining waste plan;
- to enforce the new inspection and information-gathering powers; and
- to issue administrative compliance orders and to seek injunctions in U.S. district courts where a Federal plan was in effect.

Where a Federal plan is in effect, a district court should be able to assess civil penalties. Assessment of a penalty would follow consideration of the violation's seriousness and the nature of compliance efforts. The maximum penalty for violating a compliance order should be \$25,000 per day.

It appears necessary for EPA to have these new powers to carry out successfully new rulemaking and permitting authority contemplated in an appropriate bill. Although the intent of such legislation, throughout, must be for EPA to occupy a role secondary to that of the States, it would be appropriate for EPA to have enforcement powers in order to carry out a Federal mining waste plan for a State that fails to gain approval of its plan or fails to develop a plan.

#### ENCOURAGING A PROPER STATE-FEDERAL RELATIONSHIP

Subtitle D of RCRA historically has left regulation of non-hazardous wastes to the States, with a minimum of Federal EPA involvement. Our industry recognizes that changes in this approach are necessary; indeed we support appropriate changes.

It must also be recognized, however, that in the regulation of our industry's wastes, the States have been the leaders in developing effective regulatory approaches. As shown by Appendix A to this testimony, the nature and scope of State laws and requirements governing our industry's wastes are already extensive and continue to grow. Amendments to Subtitle D must not disrupt or duplicate these State regulatory programs or superimpose costly, unnecessary and inappropriate uniform Federal rules on top of these requirements. In the face of EPA's studies and regulatory determinations and the States' increasingly aggressive regulation of mining operations, Federal actions should encourage State primacy and site-specific flexibility, not inhibit or supersede them.

Some have expressed concern that State mining plans will go unenforced and the environment will be irretrievably damaged unless EPA is given concurrent enforcement authority with the States. In our view, this concern is misplaced for four main reasons. First, there is no good reason to presume bad faith on the part of the States. We know of no State that has broadly refused or failed to enforce requirements of State law.

Second, we would anticipate that citizen suit authorities of RCRA would be available to enable citizens to sue to enforce EPA-approved State mining plans or State permits granted under those plans if a State were failing in a particular case to diligently pursue enforcement action against a violator.

Third, under an appropriate legislative approach, EPA also would have the authority to revoke, in whole or in part, its approval of a State program and then to impose and enforce its own Federal mining waste plan within that State if a State were failing in a substantial number of instances to enforce its own plans or permit requirements.

Some maintain that EPA is unlikely, once having approved a State's plan, to revoke that approval. We would point out that it is even more unlikely that a State with an established mining waste regulatory program would willingly yield control over industry wastes by allowing a pattern of violations to occur that would justify EPA intervention.

Finally, as EPA itself has pointed out in its regulatory determinations, the agency retains its power to act under RCRA Section 7003 and Superfund Sections 104 and 106 to protect against any substantial threat or imminent hazard (EPA Regulatory Determinations, 51 FR 24496 July 3, 1986 and 56 FR 27300 June 13, 1991). What concerns our industry when the question of Federal enforcement is raised is the possibility of a system of "dual enforcement," already a reality for the coal industry under the Surface Mining Control and Reclamation Act (SMCRA). The industry believes that a dual enforcement system could be used by overzealous Federal enforcement officials to interpret the provisions of an approved State program or permit in a different way than the State interprets its own requirements. In its 1979 report to Congress, the National Academy of Sciences' Committee on Surface Mining and Reclamation cautioned against imposing a SMCRA-type system on non-coal minerals (NAS/COSMAR, *Surface Mining of Non-Coal Minerals*). Additional warnings against a SMCRA scenario were given in testimony by the Montana Department of State Lands to the Senate Subcommittee on Hazardous Wastes and Toxic Substances (April 14, 1987, see Appendix B). It is difficult to see how the public interest is served in a situation where two different levels of government, both with enforcement power, may interpret an approved State plan differently. For the regulated community, such a situation makes it very difficult, if not impossible, to operate.

#### A SITE-SPECIFIC, STATE PRIMACY APPROACH IS NECESSARY

In our view, building the proper Federal-State relationship for regulating mining wastes should begin with allowing the States the flexibility to tailor requirements to the specific needs of different mine sites. This means taking into account differences in ore bodies, mining practices, mine waste streams, hydrological and meteorological conditions, and different environmental values needing protection at different sites. Federal guidelines for State mining programs should explicitly allow site-specific flexibility in the design of State regulations and permit requirements so long as State programs address the required elements and work in practice to protect health and the environment. No uniform Federal design or operating standards should be imposed on the States, and the respects in which mine wastes and operations differ from other industrial wastes and operations should be taken into account by both EPA guidelines and State mining programs.

Moreover, most mine waste regulation applies to existing sites. Considering that Subtitle C regulations could impose costs of up to \$800 million per year (EPA's own 1985 estimate, thought by many to be far too low), the agency decided "to develop a program that has maximum flexibility to develop an effective control strategy for individual facilities based on site-specific conditions." *Id.*, 24500.

EPA's regulatory determination recognized, however, that a program of "maximum flexibility" also had to avoid duplication of effort. EPA recognized "that many EPA programs already affect the mining industry," including programs under the Clean Air and Clean Water acts and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund). The agency went on to note that other Federal agencies, including the Bureau of Land Management, the Forest Service and the National Park Service also have oversight and regulatory authority for mining on Federal lands, and that their requirements provide for waste disposal without undue degradation, along with detailed reclamation requirements.

Not only were EPA and other Federal programs in place for mining, but the States, too, already played an important role in regulating mining. EPA noted that the Federal land managing agencies required compliance with all applicable State and local laws and ordinances. EPA went on to point out:

A number of States have their own statutes and implementing regulations for mining waste. Some States have comprehensive and well-integrated programs; other States have newer, partially developed programs. . . . Although there is great variation in programs, many States have siting [the single most important factor for mining waste, by EPA's own determina-

tion) and permitting requirements, and require financial assurance, ground-water and surface water protection, and closure standards. EPA agrees that any requirements necessary to protect human health and the environment should consider the existing Federal and State mining waste programs with a view toward avoiding duplication of effort. *Id.*, 24499.

The courts, too, have recognized the differences between this industry's wastes and those of other industries. In 1988, a unanimous Federal Court of Appeals for the District of Columbia Circuit upheld EPA's regulatory determination (*EDF v. EPA* 852 F.2d 1309).

In the meantime, more States have adopted mining regulatory programs or tightened and expanded existing laws, regulations and site-specific permit requirements.

To seek, in 1991, the imposition of uniform Federal regulations on this industry's wastes, whether under Subtitle C or a new Subtitle D of RCRA, would be to ignore years of congressional concern, agency studies and determinations, a unanimous court decision and the efforts of so many States to develop and carry out site-specific mining waste regulatory programs.

*Strawman II Is Inconsistent with the Principles Set Forth Above and Should Not Be Endorsed By Congress*

Following the 1986 regulatory determination that mine waste should not be regulated under Subtitle C, EPA began work on fashioning a mining waste regulatory program. One part of this effort was the preparation of staff draft regulations, known as the "Strawman" documents. Strawman I was released for comment in 1988. As a result of the extensive comments received, EPA staff realized that significant revisions would have to be made to Strawman I.

Strawman II was circulated for comment and discussion during the summer of 1990. As Appendix C to this testimony demonstrates, AMC provided detailed comments on Strawman II.

There were certain aspects of Strawman II that the industry supported. The draft paper's focus on currently active and future mine waste units was reasonable. EPA's consideration of pollution prevention measures, including the use of remining, is commendable although requiring considerable refinement as applied to mining activities. AMC agreed also with the need for public participation in the development not only of Federal guidelines but also in modifications to existing State programs.

However, the Strawman II staff draft is inconsistent with the fundamental principles of a State-based, site-specific approach that we think can most cost-effectively ensure protection of health and environment from "actual risks" (as Judge Mikva suggested in the court's unanimous opinion upholding EPA's mine waste regulatory determination).

Strawman II would supersede existing State regulatory programs for mining industry waste rather than building on them.

Moreover, Strawman II ignores EPA's earlier findings about the reasons why a uniform national regulatory approach to mining industry wastes under Subtitle C is unnecessary, infeasible and unreasonably costly. It would ignore Federal and State Clean Air and Clean Water regulatory requirements that apply to mining industry sites. Strawman II would also add new national air and water discharge standards that would have to be achieved without any demonstration that they are necessary to protect health or environment. Strawman II thus amounts to a uniform national regulatory approach nested in Subtitle D, instead of Subtitle C.

To identify only a few of the many objectionable provisions of Strawman II, we would cite the following illustrative examples:

- Strawman II lists five separate circumstances in which EPA could intervene in individual permitting decisions by the State under an approved State plan.

- Strawman II would allow EPA to bring an enforcement action against a mining facility operating in compliance with all permit requirements of a valid State permit, if EPA disagreed with the State about what that permit should contain.

- Strawman II would not distinguish between requirements for new and existing units, despite obvious differences in costs, feasibility and other site-specific factors.

- Strawman II would prohibit State mining industry permits that last longer than five years, even though a ten-year permit is established by EPA for hazardous waste treatment, storage and disposal (TSD) facilities under Subtitle C rules.

- Strawman II specifies that all States must have administrative (not judicial) penalty authority as a condition for EPA approval of a State's program, even though no other law administered by EPA requires States to enforce their rules by administrative penalties.

In summary, many aspects of the Strawman II approach would ignore existing State and Federal (including EPA) regulatory programs and wipe out the flexibility needed to develop State regulatory programs geared to the needs of the State and the characteristics of specific sites. Strawman's emphasis on the need to impose a national uniform set of multi-media RCRA controls on mine waste ignored the existence of current EPA programs under the Clean Air and Clean Water acts, existing State programs and the programs put in place by other Federal agencies such as the Bureau of Land Management, Forest Service and National Park Service.

Many of industry's concerns were and are shared by State regulators and other Federal agencies. This is evident from the comments submitted by the Western Governors' Association (WGA) Mine Waste Task Force and by the U.S. Bureau of Mines. For example, the excruciating level of detail contemplated in Strawman's section on performance standards would have severely reduced, and in important respects eliminated, the ability of a State to fashion a mine waste plan appropriate to its situation. Moreover, these detailed specifications did not appear to be necessary to protect public health and the environment. WGA thus recommended "that performance standards and factors which need to be considered in a permit review should be based upon site specific needs as defined by the State mine waste regulatory authorities and supported by the individualized State [mine waste] plan." WGA Comments, October 16, 1990, p.8.

For these reasons, we could not support legislation that would endorse the Strawman II staff draft and urge the subcommittee to reject it as the basis for appropriate amendments to Subtitle D.

The Policy dialog Committee offers an opportunity at last for interested parties to meet face-to-face to attempt to resolve these important issues and represents a more efficient and constructive means of providing input to the rulemaking process. Based on progress made in the PDC meetings thus far, we believe these discussions should be continued, at least for the near term.

### *Leaching Operations*

An excellent example of the responsiveness of State mining waste programs are those regulations now in place which set specific standards for heap leach operations. Though leach operations have long been associated with the minerals industry, the use of cyanide as an agent to extract precious metals has gained prominence in the last decade. Formerly uneconomic reserves are now being mined and the United States has become a major world gold producer.

Cyanide is a commonly used industrial chemical and a common substance in the environment. Historically, its use in the minerals industry has been accompanied by an excellent safety record. Cyanide's suitability for precious metal operations and the ease with which it can be handled and controlled safely are the leading reasons that the gold industry prefers cyanide over other industrial chemicals.

Because cyanide conveys gold and silver through the process, precious metals producers have a natural incentive to carefully conserve cyanide. In both heap leaching and milling/vat leaching, cyanide remaining in solution after the gold is removed is recycled along with process water. At the same time, each State in which such gold processing now occurs imposes requirements on the construction and operation of heap leach pads and related facilities. These include zero discharge standards for ground and surface waters in Nevada, and design and operating criteria for leach pads in Idaho. In addition to these stringent operating requirements for such facilities, these same States have imposed reclamation requirements once the facility ceases operations.

Cyanide is easily neutralized in the event of a spill or leak. It reacts quickly with many elements in the environment such as sunlight, carbon and clay and degrades or attenuates naturally into non-toxic, stable and common substances. These factors, combined with the extensive containment systems and leachate collection systems installed by operators, as well as monitoring equipment to detect any groundwater contamination, have minimized any environmental or human health risks which may be associated with cyanide use.

### *Inactive and Abandoned Mines*

As noted above, the industry supports Strawman II's focus on currently active and future operations. This is not to say that there are not potential concerns associated with abandoned mining sites. These concerns, however, may not be most appropriately addressed under RCRA, because RCRA is designed principally to address waste generation at existing operations, not abandoned sites from the past.

What is perhaps even more important is that we lack the knowledge base to address many of the critical factual policy questions that would have to be answered to design and fund an appropriate program for addressing abandoned mining sites.



For example, we must achieve a commonly agreed upon definition of "abandoned mine site." It might not be appropriate to include sites that were abandoned long before RCRA was enacted. There are various estimates of the number of abandoned mine sites in the country. Problems at these sites vary, but we need to determine how serious and how pervasive these problems may be. We need to determine the appropriate Federal and State roles in addressing and prioritizing these sites.

Where the funds should come from to pay for emergency response or reclamation at these sites, and what the overall cost of such a program might be, are issues of equal concern. Where circumstances permit, "remining" should be encouraged at these sites. Superfund liability or RCRA corrective action requirements potentially could be modified to promote environmentally sound and economically feasible re-mining and reclamation. A similar set of concerns applies to so-called "inactive" sites. Part of the answers may be coming into place. Supported by the EPA, the Western Governors' Association and the Interstate Mining Compact Commission have undertaken a study of inactive and abandoned non-coal mines.

The study is attempting to define the different types of problems (environmental versus safety) that may exist at these sites, along with reclamation needs and technologies. Part of the effort is a State-by-State inventory of inactive and abandoned non-coal mines. The study is also identifying different approaches used by States to address the inactive and abandoned mines issue. Thirty-four States and some Indian tribes have participated thus far.

We believe that this is the type of effort that must be concluded before a potentially very far-reaching new Federal regulatory program is mandated. The problem or problems must first be identified and understood before they can be solved. An increasing number of States have in place, or are putting in place, legislative and regulatory programs to address these matters, and these should be allowed to proceed to get some of the answers before a superseding Federal regulatory program is imposed.

#### RECYCLING AND AMENDMENTS TO THE DEFINITION OF SOLID WASTE

There is a growing interest in recycling, and there seems little doubt that RCRA reauthorization will make important changes in how this activity is dealt with under the law. AMC supports legislative efforts to encourage intrafacility, intracompany and external recycling and resource recovery. Our industry's recycling capabilities are considerable but to date have been constrained because of the overly stringent nature and application of some RCRA regulations.

It does not appear, however, that broadening Subtitle C jurisdiction to apply rules designed for hazardous waste treatment and disposal to the recycling of "secondary materials" and "by-products," will encourage such recycling. Quite the contrary, inclusion of "hazardous materials recycling" under Subtitle C or other inflexible hazardous waste provisions of RCRA could result in discouraging current industry recycling practices and probably discourage the full extraction of metal values from in-process material. The recycling regulation provisions of S. 976 unfortunately could be extremely counterproductive.

That bill defines "secondary material" as "any intentional or unintentional by-product or . . . residue that is recycled . . . [and that] would be a solid waste except for the fact that it is not discarded." A "hazardous secondary material" is secondary material that is recycled and that "would be required to be managed as a hazardous waste except for the fact that it is not discarded." (S.976, Section 104, subsections 45, 46.) (These definitions are circular in that what makes a "waste" a "waste" rather than part of the basic manufacturing process is the very fact that it is discarded. Thus, this new approach leaves open the possibility of regulating, perhaps specifying by regulation, the details of basic manufacturing processes—a result Congress clearly has sought to avoid in enacting RCRA and all succeeding amendments.)

The terms "by-product" and "residue" are not defined in the bill. Thus, the intended reach of the bill is not known—a very serious problem indeed. Section 405 of the bill would subject recycling of "hazardous secondary materials" to Subtitle C regulation or similar standards. Presumably any by-product or residue that failed one of the RCRA hazardous characteristics would be a hazardous secondary material.

Moreover, S. 976 does nothing to overcome the barrier to recycling that results from the "derived from" rule: because all residues "derived from" listed hazardous wastes are themselves deemed hazardous wastes and subject to Subtitle C regulation, the "derived from" rule actually creates a strong disincentive to recycling of listed hazardous wastes rather than an incentive in furtherance of RCRA's stated objectives. This is particularly ironic for listed metal-bearing wastes where recycling

or thermal recovery may be the best possible treatment technique prior to land disposal.

Under this scenario, many in our industry would continue their position of refusing to extract minerals values from listed wastes or many other materials generated outside the industry. Even worse, however, our industry's current practice of maximizing extraction of metal values from in-process materials could be seriously threatened. These are the very practices that the D.C. Circuit found to be ongoing industrial processes beyond the legitimate scope of RCRA (AMC v. EPA, 824 F.2d 1177, 1987 "AMC I"). Subsequent court decisions may have elucidated some of the finer points in the AMC I decision, but they have not detracted from the court's finding that these internal recycling practices are not part of the "waste disposal problem" that led to the enactment of RCRA. (S. 982 is even more of a concern than S. 976 in this regard. It would flatly regulate recycling of all secondary hazardous materials under Subtitle C of RCRA—a function that the Subtitle C regulations were not designed to perform. In doing so, further disincentives to recycling and materials recovery would be created.)

One point we want to make clearly: AMC does not oppose a reasonably designed regulatory program to protect public health and the environment from key aspects of the recycling process. For example, we would support appropriate measures to ensure proper storage and handling of recycled materials and environmentally sound management of the residues of recycling operations. In our view, these measures should be part of the State programs for mining industry wastes under the program we have recommended above, and any State that has an approved mining waste program covering mineral processing operations in that State should be able, consistent with the State program, to waive the derived from rule for such recycling operations.

#### TOXICS USE REDUCTION

We also have very serious reservations about the toxics use reduction provisions of S. 976. While we support reasonable source reduction measures to reduce avoidable waste generation, in extractive industries source reduction opportunities are limited by the raw materials that are available in nature. AMC cannot support proposals the effect of which are directly or indirectly to discourage production and sale of metals and minerals which have some degree of "toxicity" under some circumstance or other. Is it really wise public policy to discourage domestic production and sale of copper? Should Congress create a national materials policy that favors new unregulated synthetic materials of as yet undiscovered toxicity over those materials whose properties are well known and for which extensive regulatory safeguards exist? Clearly these provisions need to be more carefully thought out. We at AMC would be pleased to work with members and staff of this subcommittee on designing appropriate economically feasible incentives for source reduction.

#### CONCLUSION

In conclusion, we cannot overemphasize the importance of designing a legislative framework that promotes a site-specific, State-based mining waste regulatory program. Congress should preserve and enhance effective regulatory programs developed by the States for this industry's wastes. In our view Congress should specifically:

- (1) ensure protection of health and the environment in a manner that minimizes adverse impacts on the industry's competitiveness;
- (2) reject applicability of Subtitle C to mining industry wastes as has EPA and the Court;
- (3) amend Subtitle D of RCRA to provide for site-specific, waste-specific State-based mine waste regulatory programs with EPA guidance and backup authority as indicated; and
- (4) build upon existing State mine waste programs, not supersede them as would the Strawman II draft.

Although our testimony has focused principally on issues related specifically to the development of mining waste regulations, as we have indicated, other RCRA issues are also quite important to our industry. We ask that you take into account our views on those issues as well.

Mr. Chairman and members of the subcommittee, thank you for the opportunity to testify. We are ready to answer your questions, and to provide additional information. We look forward to working with you and your staff as RCRA reauthorization continues.

[Attachments to this statement have been retained in committee files.]

## PREPARED STATEMENT OF PHILIP M. HOCKER

Mister Chairman, members of the subcommittee, my name is Philip M. Hocker; I am the President of the Mineral Policy Center. My testimony is submitted on behalf of the Environmental Defense Fund, Mineral Policy Center, Montana Environmental Information Center, Northern Plains Resource Council, and Sierra Club. We thank you for holding this hearing to bring attention to the unsolved problem of regulating environmental hazards from mining wastes.

## INTRODUCTION

The Environmental Defense Fund is a nationwide public interest organization of lawyers, scientists, and economists dedicated to protecting and improving environmental quality and public health, with over 150,000 members. Mineral Policy Center is a national non-profit institution working to prevent environmental damage from mining, and to assist local community groups to respond to mining proposals in a capable and effective manner. Montana Environmental Information Center is a Helenabased non-profit organization dedicated to protection of environmental quality for the citizens of Montana. Northern Plains Resource Council is a membership-based Montana nonprofit organization comprised of ranchers, farmers, and rural townspeople concerned about family farm survival and natural resources. Sierra Club is a national organization of over 600,000 members dedicated to preserving and enjoying the natural environment.

Our organizations have an enduring concern and involvement with the regulation of mining wastes. The Environmental Defense Fund has taken the Environmental Protection Agency to court for its failure to develop regulations for mining waste in the past. Mineral Policy Center joined with National Audubon Society and Environmental Defense fund to submit comments in October, 1990, on the recent EPA rule-making on special wastes from mineral processing wastes.

These organizations, with others, were active in the EPA "Strawman" process to develop a comprehensive regulatory regime for mining wastes. I now coordinate the environmental team for the "Policy dialog Committee" which the Environmental Protection Agency has convened on non-coal mining waste regulation; Montana Environmental Information Center and Environmental Defense Fund, along with other organizations, participate in that effort.

We also cooperate closely with several dozen other local and national environmental organizations which are actively concerned with these issues, and which make a major contribution to the total effort. However, this statement only represents the position of the groups specifically named herein.

## NON-COAL MINING WASTES ARE AN IMPORTANT ENVIRONMENTAL PROBLEM

Wastes from non-coal mining constitute an important national environmental problem. These wastes are produced in extremely large amounts. The amounts are increasing, and the trend is for further increases. The contamination caused by mining wastes has great permanence, and can be either extremely expensive, or effectively impossible, to correct.

In 1987, the EPA rated wastes from mining and oilfield operations high on its agenda of Unfinished Business. The 1979 National Academy of Sciences report, Surface Mining of Non-Coal Minerals noted that "some [mining] operations. . . produce unusual liquid, gaseous, and solid wastes that create difficult problems." And the Office of Technology Assessment's 1988 report, Copper: Technology and Competitiveness put the point concisely: "Copper production is not an environmentally benign activity."

Releases of cyanide from gold extraction operations have made many headlines recently. Those problems deserve public attention, but the less-spectacular threats of acid drainage from mines, and of groundwater contamination with heavy metals from tailings and open pits, are equally ominous in the long term.

## WASTES FROM PAST MINING

Wastes from non-coal mining in the past have created a legacy of damage across the country. The largest Superfund site in America, in the Clark Fork River below Butte, Montana, was created by disposal of mining wastes containing heavy metal contaminants. Residents of the mining-caused Superfund site of Butte have suffered chronically high mortality rates and other health impacts for many decades [HEW/NIH Pub. 79-1453, 1979]. A Colorado School of Mines survey identified 1361 miles of streams in Colorado contaminated by past mining, and the Bureau of Mines reports

that the national total of mining-damaged surface waters exceeds ten thousand miles.

Our knowledge of the extent of mining waste damage is still seriously incomplete. The EPA Report to Congress in 1985 cited thirteen mining sites on the Superfund list; however, the current count is over 50 sites, and the eventual total is certain to be higher. A leading attorney in this field reported to the American Mining Congress in 1988 that "many more mining sites will be added to the National Priorities List in the coming years." Furthermore, because Superfund's principal emphasis is on hazardous-waste sites which endanger human health, many serious polluting sites which threaten fisheries and wildlife may not qualify for the NPL.

#### WASTES FROM ACTIVE MINES, TODAY

The damage caused by past mining is undeniable. However, the problems of non-coal mining waste disposal are not limited to abandoned or inactive mines. And, those problems are not entirely prevented by present regulations and practices. First, the subcommittee should be aware that many mines which are currently operating are causing waste disposal problems.

##### *California: Noranda Grey Eagle Mine*

This gold/silver mine was opened in 1981. Waste management facilities conformed to all codes then in effect. However, cyanide leakage from the tailings dam exceeds permissible limits. Despite clay capping of the tailings impoundment, active pumping and treatment of seepage will be required for an estimated twenty years. Noranda has covered remediation costs. [Source: Calif. Mining Waste Study, 1988]

##### *Florida: Phosphogypsum Mines*

Phosphate mining generates over 500 million tons of solid waste per year [EPA, Report to Congress, 1985]. Gypsum slurry wastes from eleven operating phosphate mining/processing facilities in Florida are actively contaminating the area's groundwater. Contaminant leaching is predicted to continue for 50 years after the cessation of production. At the C.F. Industries site, the following contaminant levels have been reported in groundwater:

Contaminant	Measured Level	State Standard
arsenic.....	1.8 mg/L	.05 mg/L
cadmium.....	.51 mg/L	.01 mg/L
gross alpha.....	5480 pCi/L	15 pCi/L
sodium.....	2100 mg/L	160 mg/L
fluoride.....	4690 mg/L	2 mg/L

[Florida Department of Environmental Regulation]

##### *Idaho: Cyanide Leaks*

Numerous cyanide leaching facilities in Idaho have contaminated ground waters with cyanide. One of these recently built facilities was said to "incorporate several new environmental protection features and . . . be a model for future operations." Contamination has been found at the Sunbeam Mine (1984), Yellow Jacket Mine (1983), Elk City (1984), and Comeback Mine (1986). EPA emergency remediation measures were performed at two of these sites at State request. Proposals to reopen some of them are expected. [Source: Idaho Department of Health & Welfare, 1990]

The foregoing is merely a brief set of examples; we are progressively compiling documented histories of additional mining waste damage sites, and accounts are available from EPA and various State sources. The problems of mining waste contamination are today's problems, not merely yesterday's.

#### WASTES FROM TODAY'S MINING, TOMORROW

In addition to the problems of past mining, and of present mines which are known contaminators today, many mines which are not discharging hazardous contaminants today will do so in the future.

The nature of mining wastes is such that an engineering solution which complies with all current regulations, and which may not violate the Clean Water Act today, is often very similar to conditions at older mine sites which are now our most seri-

ous problems. Progressive flooding of mine workings only begins when the pumps are turned off, and it is only then that the worst groundwater contamination problems arise.

One of the forms in which delayed mining waste problems commonly arise is acid drainage. The California *Mining Waste Study* published in 1988 warned:

"... one of our principal concerns is that the potential continues to exist for mines to produce AMD (acid mine drainage). In all likelihood, AMD would not form until after the mine is worked out and abandoned, because while it continues to operate the mine can control the acidity of its waste piles by adding neutralizing materials. Provided that the pH within a waste facility is maintained above about 4, the rate of acid formation is extremely slow. However, below this pH value bacterial action leads to a dramatic acceleration of the oxidation rates. Once this happens it is virtually impossible to reverse. In other words, a waste facility that may seem to be benign for years while the level of acidity is being controlled may, quite suddenly, begin to produce AMD and result in a problem that could persist for years." [page.xx]

Which waste materials will produce long-term problems? According to one presenter at the 1990 "Western Regional Symposium on Mining and Mineral Processing Wastes" at U.C. Berkeley [R.W.Lawrence]:

"Processes affecting [mining waste] behavior are complex and only poorly understood. [The nature of AMD production] does not allow a simple, reliable, and timely predictive methodology to be readily apparent." [Symposium Proceedings, p.115]

#### *Montana: Berkeley Pit, Butte*

Groundwater contamination from open pits is another route by which currently benign mines will damage the environment in the future. The pumps draining the Berkeley Pit open-pit copper-lead-zinc mine at Butte, Montana were shut off on April 23, 1983. The mine itself (as opposed to its tailings discharges) had not been a pollution source previously. The water is now over 700 feet deep in the pit, and in about seven more years, the water level will reach exposed alluvium in the pit walls. This highly acidic (pH 2.8) and metalladen water will threaten groundwater quality in the valley to the south.

In the Nevada gold-mining districts, surface mines have been working deeper for several years. Several of these mines are now passing from oxidized near-surface ore zones into sulfide ores with a much greater contamination potential. When these mines are abandoned, if no preventive steps are taken, they may become conduits connecting pure aquifers with contaminated groundwater and ores. These pollution problems do not exist now. But the experience of past mines indicates that in time these pits may be tomorrow's Superfund sites.

#### *South Dakota: Brohm Mining Corp.*

Migration of leaks of contaminants can take time to show up in monitoring wells, by which time remedies may be very difficult. Brohm Mining Corp's leaching pads were shut down by State order in October, 1988; cyanide from leaks in the pads appeared in monitoring wells in December, 1989, thirteen months later. Longer delay times may often precede contamination discovery. [Source: Rapid City Journal, 30Dec89]

Simple erosion of tailings can carry heavy-metal contamination into streams and render them unfishable and undrinkable. Much of the tailings material which now makes the Clark Fork River a Superfund site was originally stored in side valleys, but eventually was washed into the main stream by storms and neglect. Mill tailings are still routinely stored behind earthfill dams in side-stream channels.

Sound long-term environmental protection requires that the closure of mining sites meet "archival" standards, so that acid generation, groundwater migration, and erosion do not generate future pollution problems. Many sites which may appear benign while in active operation, or when viewed shortly after closure, are not engineered to prevent these future impacts.

#### FEDERAL REGULATION UNDER RCRA IS NEEDED AND APPROPRIATE

While some aspects of non-coal mining's environmental threats, such as point discharges into surface waters, come under existing Federal regulation, many aspects do not. There is no comprehensive Federal system of groundwater regulation. And the threat of future environmental problems from improper waste management—

the exact category of problem which Federal hazardous waste legislation was intended to prevent—is not addressed by any existing Federal programs.

Some States have management programs in place, but they vary widely in scope and effect. Some States have recently adopted tight regulatory legislation, but as in the case of Oregon's 1991 cyanide statute, it is often narrowly focussed. In our judgment, no State has a regulatory system in place to address mining wastes which is sufficiently both comprehensive and rigorous to prevent environmental problems from mining wastes.

We believe that a strong Federal regulatory scheme mandating minimum standards of protection, enforcement, and public access, is needed. States may be granted primacy to implement this effort, subject to Federal audit of both the total State program and of contested individual permits. Some flexibility to minimize disruption to existing State regulatory programs should be afforded.

The complete span of environmental review of any given mining facility, whether by a State or Federal program, should be unified within a single "umbrella" permit. Such a permit could adopt by reference the approvals required for various media, and include, in addition, requirements for media not otherwise regulated (soils, groundwater). This umbrella concept would provide the optimum compromise between harmony with existing programs and maximizing the comprehensive multi-media review given to new facilities.

The past decade of Federal delay on mining waste regulation has led to much welcome State-initiated action in a Federal vacuum. However, the classic problems of leaving any arena of environmental protection exclusively to the States—of industry "bottom-fishing" for the least-regulated State, and of States which by law cannot impose environmental standards which exceed Federal levels—make total reliance on State efforts unrealistic. A strong Federal baseline, applying to standards, procedures, and levels of enforcement, is essential for mining waste regulation.

#### BEVILL AMENDMENT AND SUBTITLE C/D ISSUES

Our groups believe that mining and processing wastes which have hazard characteristics which would normally require that they be regulated as hazardous wastes under the Resource Conservation and Recovery Act ("RCRA") should be so managed under Subtitle C of RCRA. Whatever practical objections there might once have been to this approach have been removed by the passage of Pub.L.98-616, the Hazardous and Solid Waste Amendments of 1984, which authorizes the Administrator to modify certain requirements "to take into account the special characteristics of such wastes [and] the practical difficulties associated with implementing such requirements. . . ." [Pub.L.98-616 S209, 42 USC S6924(x)]

However, it is clear that some important mining waste categories will not be classified as hazardous due to low levels of toxicity. Nonetheless, many of these groups still must be regulated to prevent damage to human health and the environment over the long term.

Since the EPA issued its regulatory determination against managing mining wastes under Subtitle C of RCRA on July 3, 1986, discussion has encompassed regimes described vaguely as "C-minus" and "D-plus." C-minus, as used by EPA, refers to a "scenario that utilizes the flexibility provided by RCRA section 3004(x)." D-plus means "A subtitle D program similar to those being developed for extraction and beneficiation wastes." [EPA, 56 Fed. Reg. 27303 (1991)]

While a C-minus program could be developed using existing statutory authority, a D-plus system will require new legislation. Such legislation should address not only the character of the D-plus regime, but also the process for assigning waste types among a flexible array of programs.

Such an array must accomplish a range of goals, which are not being met by current law or EPA programs. Among other things, the array must address the problems posed by mined materials during the mining and processing phases, and must address closure and post-closure protection and monitoring. These problems must be solved with a comprehensive multi-media approach which is open to public participation and scrutiny.

Thus, while we feel that the Bevill Exclusion was misguided, we do not feel that the goal of protecting the environment from mining waste contamination is met by simple yes/no debate over whether to eliminate the Exclusion. A more comprehensive and flexible approach may be more effective. The option of dealing with specific mining wastes which meet the RCRA standard of "hazardous" within Subtitle C should be part of that comprehensive approach, but it is not the whole answer.

Neither is relegating mining wastes to Subtitle D an answer. Subtitle D does not constitute a tangible or effective regulatory program for these materials, as it stands in current law. Legislation is needed to address those aspects of mining waste

regulation which fall neither into Subtitles C or D, and to bring an end to the protracted dance over the extent of the Bevill exclusion.

I have mentioned the need for public access to the mining waste regulatory process several times in this testimony. Public involvement is meaningless without complete information disclosure. In addition to including disclosure provisions in a RCRA-based mining waste program, mining should be included in the Toxics Release Inventory established by the Emergency Planning and Community Right-to-Know Act. Hazardous waste from mining at least equals the entire volume of wastes currently required to be disclosed; the public is entitled to have access to this information.

#### THE EPA "STRAWMAN II" PROPOSAL

On 21 May 1990, the EPA released the second version of its "Strawman" outline for a regulatory program for non-coal mining waste. The first thing to realize about "Strawman II" is that it is not a regulatory program. It is a generalized set of ideas, not focussed into a proposal for legislation or rulemaking. It is doubtful today whether Strawman II represents a position which EPA intends to pursue; if so, a recommendation for legislative action is overdue.

#### *Strawman II Problems:*

The Strawman II draft fails to resolve a number of issues which must be addressed firmly by an adequate regulatory program. Some of these are specific and quantitative; some are procedural. To list a sample of Strawman II problems:

- Under EPA's implementation schedule, existing mining waste facilities need not meet the requirements of Strawman II until the next century, 25 years after the original enactment of RCRA.
- Only new facilities, and existing facilities in active operation on the compliance date, are regulated [p.1]. Any mine which becomes inactive prior to the end of the State Plan certification process plus five-year delay period will evade regulation.
- By excluding inactive units within active sites from regulation, EPA enables an operator to avoid cleanup of new facilities by proving that the level of ambient site contamination has been elevated by the inactive unit.
- EPA's implementation of mining waste regulations in non-certified States is optional ["may develop", p.96], and there is no time requirement for EPA action if a State fails to develop a certified Plan.
- Any transition between State and EPA implementation of regulation in a State would create a five-year window within which active mines could evade regulation by becoming inactive.
- No standards for public participation procedures are established. Current State practices vary wide ly, and both citizen groups and local government jurisdictions have complained to us about refusal of State agencies to allow access to mining information.
- EPA could certify ("codify") individual elements of a Plan, leaving no comprehensive test of the overall adequacy of a State's program.
- In-situ mining operations are not specifically included, despite the apparent intent to address soil contamination issues elsewhere in Strawman.
- No specific analytical process for evaluation of acid generation potential is prescribed.
- Closed mines would not be required to meet any specific standards for durability and self maintenance. There are no closure requirements for units which are not active when the State's Plan becomes effective [pp.74-8].
- No master permit is required for the operation of a mining waste disposal facility. If multiple independent permits for specific impacts are used with no master approval, a "fragmenting" of environmental impact consideration is encouraged.
- The dispersion of State regulatory approaches to mining waste under Strawman will make evaluation of the adequacy of a State program, by either EPA or other parties, extremely onerous.

#### *Strawman II Successes*

Despite the problems summarized above, we believe that the Strawman II draft contains a number of elements which could, if put into force, bring about a great improvement in the management of mining waste, and a great reduction in the future threat of mining-caused pollution. As a sample:

- States would be permitted to adopt standards more stringent than the Federal baseline.
- The need for EPA to review the operation of a State's plan, both on a scheduled basis and in response to petitions from interested parties is recognized.

- Citizen suit opportunities under RCRA would be extended to State Plans (though the wording of this provision should be clarified) [p.8].

- A multi-media approach, in which emissions of mining waste from the operation into ground water, surface water, air, and soil are all considered, is included (though the provision for adopting isolated parts of a State's program undercuts this comprehensiveness).

- Active heap and dump leaching operations are to be regulated, recognizing that the character of eventual wastes is effectively a function of the operating design of these facilities.

However, these accomplishments would depend on translating Strawman II from a concept paper into a program in place. To accomplish that, EPA needs to frame a recommendation for legislation. Adequate regulation of mining waste will require new statutory authority. The Strawman draft recognizes this.

While there has been value in the Strawman process, and in the Policy dialog Committee which is its current successor, these activities have failed to result in Administration action. Congress should not wait any longer for EPA's meditations to lead to a breakthrough.

#### EPA 1991 PROCESSING WASTES RULEMAKING:

On 13 June 1991, the Environmental Protection Agency published a regulatory determination regarding the management of 20 waste streams from the processing of ores and minerals. The National Audubon Society, Environmental Defense Fund, and Mineral Policy Center had submitted formal comments in October, 1990, on this rulemaking.

Despite clear showings of current or potential hazard from many of these streams, EPA determined that none of them would be regulated under Subtitle C of RCRA. We feel that this conclusion was unwarranted. Furthermore, it demonstrates the obstacles which the Bevill Exclusion has created to effective mining waste management.

EPA followed inappropriate and inconsistent logic in its final determination. In some cases EPA declined Subtitle C regulation because the currently active producer of this stream is in an isolated location (e.g. calcium sulfate wastewater plant sludge). In other cases EPA relied on hypothetical future regulation through the "D-Plus" program, which does not exist and is not even fully defined, to alleviate acknowledged hazards (e.g. air pollution control dust from carbon steel production, 56 Fed. Reg. 27310).

As illustrated earlier in my testimony, phosphogypsum stacks are a serious groundwater contamination problem. EPA concludes that "there are numerous cases of documented ground-water contamination across the industry." (56 Fed. Reg. 27315) EPA also found that current "management practices are often not adequate to limit contaminant release," and that current regulations are not adequate.

Nonetheless, due purely to consideration of cost to the phosphogypsum industry, EPA declined to regulate these wastes under Subtitle C and instead chose to defer the problem to the Toxic Substances Control Act ("TSCA"). We believe this was improper. Phosphogypsum wastes meet all of the criteria of Subtitle C, and should be managed thereunder.

EPA should not be allowed to engage in statutory forum-shopping at its own discretion, in the face of documented hazards. EPA has earlier declined to regulate wood-industry wastes under TSCA, due to that statute's excessive flexibility and lenient cost/benefit evaluation standards. The same logic should apply to phosphogypsum wastes.

#### CONCLUSION

In conclusion, Mr. Chairman, I would like to repeat my appreciation for this invitation to present environmental concerns and recommendations on the regulation of mining wastes.

Mining wastes are not being controlled today with the rigor which the public expects. We are not only failing to clean up the damage of the past, but mining today is creating new environmental damage sites to burden our children. A strong Federal program to address this problem is urgently needed.

We are grateful for the subcommittee's attention to this issue, and we hope for prompt action, both by the Congress and the administration, to put an effective and appropriate Federal system of mining waste regulation in place. I would be pleased to answer any questions. Thank you.



## STATEMENT OF LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

## I. INTRODUCTION

Thank you for requesting Louisiana's input on whether exploration and production wastes should be regulated under RCRA. The decision to exclude wastes such as drilling fluids, produced water, and other wastes associated with the exploration for, or production of oil and natural gas under the Resource, Conservation and Recovery Act (RCRA) has resulted in a lack of regulation and some negative impacts on our State environment.

Oilfield operations in the United States result in the generation of large volumes of wastes. In 1985, approximately 361 million barrels of waste drilling fluids and cuttings were generated, with 47 million barrels originating in Louisiana. Also, 20.9 billion barrels of produced water were generated in the U.S. Of this total, 541 million barrels were discharged to Louisiana coastal surface waters and 790 million barrels re-injected. Associated wastes accounted for about 10.6 million barrels of the U.S.'s oilfield waste stream, with over one million barrels being generated in Louisiana.

The jurisdiction within Louisiana with regard to exploration and production wastes is divided mainly between the Louisiana Department of Environmental Quality (DEQ) and the Louisiana Department of Natural Resources (DNR). The DEQ controls surface discharges of drilling fluids, produced water, workover and completion fluids and other associated wastes. The DNR controls management of oilfield wastes in pits and landfarms, produced water disposal through underground injection wells and enhanced oil recovery projects (waterflood), and nonsurface water disposal of associated wastes.

## II. TYPES OF WASTES

*A. Large Volume*

1. *Produced water.*—Produced water or brine is a waste separated from oil during production operations. While most is disposed of through underground injection, a substantial amount is discharged to coastal surface waters. Currently, over 541 million barrels are discharged to Louisiana surface waters each year and over 790 million barrels are reinjected. Produced water varies in composition from one geographical region to another. The water may contain high levels of salts, metals, oil and other organic compounds, and radionuclides. The discharge of produced water has been documented to cause environmental damage. Each year the equivalent of a 500,000 gallon oil spill is dumped into Louisiana's waters from produced water discharges. Sediment contamination and/or toxic impacts occur at discharge sites. The water is toxic up to dilutions of 24 to 1 by natural waters. Some impacts may extend up to 6000 feet from the discharge point. This is reflected in reduced numbers of species and individuals located in the vicinity of the discharges. Although produced water is exempt under RCRA, it would be considered hazardous waste under Toxicity Characteristic Leaching Procedure (TCLP) regulatory levels for mercury and benzene. Produced waters may also be radioactive. The Louisiana Department of Environmental Quality has concluded that the environmental risks of continued discharges are not acceptable in Louisiana's coastal waters with the exception of the major passes of the Mississippi and Atchafalaya Rivers and offshore waters. On March 20, 1991 State regulations came into effect which will require operators to meet new effluent limitations for the discharges to Louisiana's inshore waters within a maximum time period of six years. Those operators which do not meet the new limits have the option of disposing of their waste by reinjection. We believe that subsurface injection will be the disposal method of choice. In 1989, over 12 million barrels of produced water was disposed of at commercial injection facilities.

In Louisiana, coastal area produced water discharges have been found to damage the environment. Over 368,000 pounds of benzene, a known carcinogen, are released annually from produced water discharges. Other industry discharges of benzene amount to 6,600 pounds per year. These discharges also contain 6,900,000 pounds of barium, 30.6 curies of Radium and more toluene, ethylbenzene and arsenic than all of Louisiana's other industrial discharges to State waters.

2. *Drilling fluids.*—Drilling fluids (muds) are used to cool and lubricate the bit and drill string, remove and transport cuttings from the bottom of the hole to the surface, and control subsurface pressures. Drill cuttings are the particles of subsurface material generated by the drill bit. In Louisiana, oilfield activities generate 47 million barrels of drilling fluids and cuttings each year. This is approximately 8 percent of the total volume of oilfield wastes generated each year in Louisiana. Drilling fluids range from relatively simple to complex combinations of finely ground compo-

nents and specialty chemical additives. Specialty additives to drilling fluids range from inorganic salts and biocides to complex organic polymers which can be highly toxic. Also, diesel fuel may be added to drilling fluids as a lubricant. Drilling fluids are a threat to organisms when the mud is discharged to surface waters. The increased solids content associated with drilling mud discharges can adversely affect oxygen concentrations in the receiving water column through oxygen depletion and by inhibiting the light penetration needed for algal oxygen production. Increased solids can also inhibit gill efficiency and bury bottom dwelling organisms. This smothering effect causes reduced populations and interferes in reproduction. Contamination by drilling fluids may also cause decreased growth and altered behavior patterns. Louisiana currently allows the disposal of certain drilling cuttings and associated drilling fluids to surface coastal waters. However, large volume batch or bulk discharges of drilling fluids are not allowed except in the territorial seas. Land disposal of these fluids is regulated by the Department of Natural Resources.

#### *B. Associated Wastes*

1. *Workover and completion fluids.*—Over one million barrels of associated wastes are produced each year in Louisiana. This is less than one percent of total wastes produced but includes some of the more toxic materials. Associated wastes include workover and completion fluids. Workover fluids are used to keep well pressures under control during maintenance. Completion fluids are used prior to commencement of production or when the well is plugged and abandoned. Workover fluids are similar to drilling fluids and may also contain tubing scale, wax/paraffin, and salts. Completion fluids may contain acidizing agents. These two wastes account for the majority of associated wastes produced in Louisiana and may only be discharged to waters located in brackish or saline marsh areas and offshore. Discharges to upland areas are not allowed and disposal is usually by reinjection.

2. *Tank bottoms.*—Tank bottoms contain produced sand, formation solids, or emulsions (heavy hydrocarbons such as asphaltanes) that settle out in production operation vessels. Tank bottoms may contain high levels of benzene and radioactivity. In 1989, over 760,000 barrels of tank bottoms were disposed of at commercial landfarming facilities.

3. *Pipe scale.*—Environmentally high concentrations of naturally occurring radionuclides in precipitates (scale) are collected from oil-water separators, pipes, and pits used for disposal of produced water. Soil and groundwater contamination may take place at sites where the scale is actively removed from pipe by reaming, rattling, or other means used to reclaim pipe. Soil contaminated with radioactive scale at pipe storage facilities can have a Radium-226 radioactivity of up to 8,700 pCi/gm. Natural background Radium-226 activity in Louisiana soils ranges from less than one to around 7 pCi/gm. The half-life for Radium-226 is 1,620 years. Radium-226 can enter both aquatic and terrestrial food chains leading to human consumption. Workers employed in the area of cutting and reaming oil field pipe and equipment may be exposed to very serious health risks associated with inhalation and/or ingestion of dust particles containing elevated levels of alpha-emitting particles.

4. *Miscellaneous associated wastes.*—Other associated wastes include oily debris generated at production sites, spent filters and filter media, dehydration and sweetening wastes from gas processing plants, cooling water, produced sand, untreatable emulsions, spent iron sponge, used solvents and degreasers, contaminated soils, pipeline pigging wastes, crude oil, and other miscellaneous wastes. Disposal methods for these wastes include reinjection, landfarming, and landfilling. Improper disposal of these wastes can lead to ground and surface water contamination.

### III. DISPOSAL METHODS

#### *A. Oilfield Waste Pits*

Pits are often used for storage and treatment of oilfield wastes. Contamination of underground drinking water sources may result from improperly lined pits and use of porous natural soils to construct the pits. Improperly closed pits may also cause groundwater contamination. The State lacks resources to adequately inspect pit closures.

#### *B. Landspreading and Reinjection*

Landspreading is a method of treatment and disposal of wastes in which the wastes are spread upon, and sometimes mixed into, soils to promote reduction of organic constituents and dilution of metals. The Safe Drinking Water Act establishes a special class (Class II) of injection wells for the disposition of oilfield fluids. These injection wells are used for exploration and production waste disposal, enhanced oil recovery, and in some cases, storage of liquid hydrocarbons. Over two-

thirds of produced water in Louisiana is reinjected. Underground injection wells may contaminate underground drinking water sources if not properly constructed and operated. Inspection of injection wells only takes place approximately every 5 years with some additional well inspections during workovers. A lack of resources prohibits the State from doing more frequent inspections. These wastes are disposed of at both onsite and commercial disposal facilities across the State. In 1989, over 15 million barrels of oilfield waste were either reinjected or landfarmed at commercial facilities throughout the State.

#### IV. RISKS AND IMPACTS

All major types of oilfield wastes and waste management practices have been associated with environmental damage. Leaching of contaminants from central treatment and disposal facilities, reserve pits, and unlined disposal pits can result in ground and surface water contamination. In addition, improperly plugged and unplugged abandoned wells, and improperly functioning injection wells contribute to contamination of groundwater. Exposure to produced water damages agricultural lands. Aquatic and bird life are threatened by metals, hydrocarbons, and radiation contained in discharges of drilling fluids and produced water. In Louisiana, a major oil and gas producing State, environmental degradation from improper disposal of materials has been documented statewide. In particular, damage to fisheries resources and exposure of workers to radioactive pipe scale are a concern. Enormous amounts of resources are spent on wetland conservation while at the same time massive amounts of contaminants have been a contributing factor to wetland loss. Louisiana currently has a seafood industry worth over \$1.5 billion to the State. Discharges of wastes to Louisiana surface waters can be ingested by fish and shellfish. Produced waters are toxic to aquatic life and have been shown to cause chromosome damage in juvenile fish. The fisheries of the State must be protected from all pollution sources, including oil and gas operation discharges, to ensure future harvests.

#### V. RECOMMENDATIONS

Currently, wastes associated with oil and gas exploration, development, or production activities are specifically excluded from the definition of hazardous waste (40 CFR Part 261.4 (b) (5)). This exclusion, in our opinion, should be removed by Federal legislation, or replaced by a "Special Waste" designation concurrent with a congressional mandate requiring the U. S. Environmental Protection Agency (EPA) to develop standards and best management practices which would ensure the proper management of these wastes. Congress in 1980 directed the EPA to prepare a report regarding management practices for oil and gas waste (RCRA § 8002(m)) by 1982. Congress further directed the EPA to develop regulations<sup>1</sup> for the management of oil and gas wastes following the completion of this study (RCRA § 3001(b) (2)). The EPA, however, was sued in 1985 because they had not made any progress on the study. The final product, entitled "Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas and Geothermal Energy" was released in late 1987. The EPA in July, 1988 stated the position that regulation of these wastes under RCRA Subtitle C was not warranted (54 FR 25446; July 6, 1988). It is important to note that in both of the aforementioned expressions of policy, the EPA stated that it would seek to improve existing Federal management programs under Subtitle D of RCRA. During the eleven years since Congress first addressed oil and gas waste they have remained largely unregulated! Recently, the EPA added new standards for hazardous waste classification (Toxicity Characteristic Leaching Procedure) which now regulate many waste streams as hazardous which contain the very same constituents that are present in the excluded oil and gas wastes. Oil and gas waste should be regulated. Congressional intent should therefore be reemphasized through new legislation, and the EPA should be given a specific time-table and adequate resources to develop regulations which will ensure the protection of public health and the environment. These regulations should require the characterization of oil and gas wastes as hazardous or special wastes (and therefore regulated under RCRA Subtitle C) whenever appropriate.

With respect to the question as to whether oil and gas wastes are more appropriately regulated as hazardous or only solid wastes, it is our opinion that each waste stream should be evaluated as to its own specific hazardous characteristics and management standards set accordingly. The various waste streams should be designated once and applied generally. There is no reason to generally conclude that all oil and gas wastes are hazardous and therefore subject to RCRA Subtitle C regulation. This would undoubtedly be overly burdensome to the regulated community, and result in excessive costs associated with oil and gas activities. Congress should

not conclude, however, that simply because a particular waste stream is in fact non-hazardous that regulation is unnecessary. All oil and gas waste streams should be regulated, either through RCRA Subtitles C or D, or through the Clean Water Act and the Safe Drinking Water Act (NPDES or UIC programs). It is only through this "umbrella" approach that we can be sure that the EPA's mission to protect public health and the environment will be fulfilled.

It is our opinion that if legislation is enacted to regulate oil and gas waste, the Federal Government should retain primacy until such time as individual States demonstrate adequate capabilities. The delegation process should not, however, be turned into the arduous endeavor currently in operation within the RCRA program. Clearly, Federal oversight must be available to ensure consistency. The EPA should consider approving State programs based upon self-certification demonstrations.

The health and economic implications of regulating oil and gas wastes under RCRA Subtitle C rather than under RCRA Subtitle D will be waste-specific. Clearly, disposal costs for hazardous waste are significantly higher than those for non-hazardous waste. It is quite likely, however, that it will not be environmentally necessary to regulate all oil and gas waste streams as hazardous. Each stream must be evaluated based upon its specific characteristics. As a part of the evaluation process, the EPA is required to consider economic implications, and endeavor to balance environmental benefit versus those implications. The appropriate approach is to require the EPA to go through the characterization process rather than to exclude all oil and gas wastes from Subtitle C regulation. This clearly has resulted in adverse health and environmental impacts, as described earlier.

It is our opinion that the role of the Federal Government, as stated above, should be to establish regulations governing the management of oil and gas wastes. Individual States simply lack the wherewithal to conduct the studies necessary to properly categorize each waste stream and impose fair, yet protective management standards. This type of activity has always been the responsibility of the Federal Government, primarily through the EPA. To treat oil and gas waste any differently would be totally inappropriate.

With the exception of the need for Congress to more clearly express its mandate to the EPA regarding oil and gas waste management, we believe the existing RCRA statute contains sufficient authority to address these wastes. Undoubtedly the exclusion of oil and gas waste from the definition of a hazardous waste should be repealed by legislation, and a clear statement of congressional intent to properly manage these wastes should be provided.

We also believe that Congress should encourage waste minimization. In order to avoid the use and closure liability of pits, some operators are using a closed system. This is a system in which the waste is stored in enclosed tanks or barges prior to being disposed of. When possible, use of this method should be encouraged for all oilfield operations.

We strongly urge that no blanket exemptions be allowed for stripper wells. Louisiana is a mature and well explored production area as are most of the United States. The majority of producing wells in the country are now or will eventually become stripper wells. An exemption for these wells will make any regulations meaningless. In addition, major oil producers are moving their operations offshore and selling facilities to small operators which frequently do not have the capital to adequately finance cleanup operations.

State resources are generally inadequate to regulate the oil and gas industry and must be supplemented by Federal funds and research efforts. States have been forced to take the lead despite heavy political opposition and severe resource constraints in certain cases (coastal discharges and radiation) because of Federal inaction. Regulation under RCRA must be accompanied by development of strong water pollution control and radiation protection measures. Louisiana is far in advance of the Federal Government in these areas. Louisiana, one of the largest oil producing States in the country, has promulgated strict but fair regulations; we urge the Congress to support such efforts to do so.

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STATEMENT OF THADDEUS JOHNSON, GENERAL ADMINISTRATOR, OKLAHOMA CORPORATION COMMISSION

The Bevill exclusion of the deleterious substances generated in the exploration, drilling and production of oil and natural gas from RCRA hazardous waste treatment creates no undue threat to the environment. All nonexempt wastes created or used in these processes are handled according to RCRA Subtitle C or Subtitle D

standards including wastes resulting from mixture of excluded wastes with non excluded wastes.

The State of Oklahoma's Corporation Commission has developed through working with academia, industry, other State agencies and the environmental community rules designed to ensure that the excluded wastes are disposed of or treated in an environmentally safe manner. Handling of these wastes is in accord with guidelines set out in the "EPA/IOCC Project on State Regulation of Oil and Gas Exploration and Production, Waste" dated December 1990.

The Oklahoma Corporation has a history of being in the forefront with environmental regulation:

- December 1939 it began issuing area rules dealing with the protection of fresh water by setting requirements for surface casing.

- March 1943 Area rule #2 issued, not only set surface pipe, but also required tank dikes and prohibited earthen pits for the containment of saltwater.

- After some 14 area rules to protect the quality of the environment, the Oklahoma Corporation Commission promulgated the first statewide pollution abatement rules in 1955.

- November 1967 it issued rules requiring mandatory disposal of saltwater into well bores.

- July 1972 a rule prohibited the injection of saltwater into any well without tubing and packer.

- December 1981, the Oklahoma Corporation Commission was the first State agency given primacy under the EPA's Underground Injection Control program.

- Since the first pollution abatement rules were issued in 1955, they have been revised 42 times. See Attachment 1 for a summary of rule revisions since 1987.

- The Oklahoma Corporation Commission began protection of Oklahoma's environment 30 years before the creation of the USEPA.

Oil and gas wastes excluded by the Bevill amendment are more appropriately regulated by the States which already have in place rules, as above described, necessary to protect the environment. The nonexempt wastes are already regulated under both RCRA Subtitles C and D. The existing RCRA statute presently contains sufficient authority to address oil and gas waste issues through administrative mechanisms with no addition legislation necessary.

The States already have the infrastructure and trained personnel familiar with oil and gas activities in their respective States. Experience has shown, Underground Injection Control and Underground Storage Tanks, that States promulgate rules equal to or more restrictive than Federal guidelines when needed and that States have done and are doing a good job running Federal programs under primacy agreements. This is by far the least cost method as it adds fewer personnel to existing staff than would be necessary to create a separate Federal unit and set it in among State employees carrying out pollution abatement and control efforts.

There is little if any evidence to support that the excluded oil and gas wastes are creating a health hazard. To treat them as hazardous wastes (Subtitle C) and cause their disposal in Class I type wells or in other approved hazardous solid waste disposal systems (Subtitle D) would have a devastating economic impact on Oklahoma's oil and gas production. Some 70 percent of the oil produced comes from stripper wells (10 BOPD or less). It is estimated Oklahoma would essentially shut down its 96,000 oil wells and about one-half of its 28,000 gas wells.

Oklahoma produces about 280,000 barrels of oil and 3,000,000 barrels of saltwater per day. To dispose of the produced water there are approximately 24,000 injection and disposal wells which meet Class II specifications, most of which could not be converted to meet Class I specifications and would have to be plugged and replaced with new wells.

Replacement cost would render stripper well operations uneconomical. Should this occur, a great concern arises as to how any State or the Nation for that matter can cause the plugging of all the idle wells that will exist. Small operator bankruptcies will be the order of the day. It is difficult to understand how the shut down of stripper wells in this nation can be in its best interest. Twice as many crude oil tankers will have to ply our coastal waters and inlets which will significantly increase the environmental threat. Any Class I wells that might come into existence can handle truly hazardous wastes and any regulatory entity be it Federal or State, will have monumental surveillance problems, to ensure that highly toxic substances are not injected into enhanced oil recovery projects and returned to the surface as part of the recovery process.

What this really boils down to is the adequacy of existing Federal and State programs for controlling these wastes. As for Oklahoma we believe they are adequate.

Keeping abreast of environmental concerns is an ongoing process in Oklahoma. There is a monthly meeting of the Oil and Gas Conservation Division Staff to review existing rules for modification and to determine need for additional rule making (See Attachment 2).

The role relating to excluded oil and gas field waste, regulation should be left with the States. Oklahoma for example promulgates rules that are aimed at zero pollution from ongoing activities. There are pollution sites left over from prior years that are through time being cleaned up when and as responsible parties can be located or with State funds when available where no responsible party exists.

In conclusion this is not to say that there are no weaknesses in the system of regulating oil and gas field wastes. Enforcement and timely cleanup of spills, leaks, pipe breaks, etc., is a problem with certain operators or when no responsible party can be located, the hearing and fine levying process is often slower than desired. A currently planned rule change will set in place fixed fines for certain rule violations and will shorten the time to discipline non-complying operators. Rules under consideration effect cleanup standards, changes in casing cementing requirements and others as mentioned in Attachment 2.

Field Inspectors have an ever increasing need to be trained. A program has been set in place to provide them environmental training.

The opportunity to comment is appreciated.

[Attachments to this statement have been retained in committee files.]

#### PREPARED STATEMENT OF KENNETH L. ALKEMA

Mr. Chairman, on behalf of the State of Utah and the Mine Waste Task Force of the Western Governors' Association (WGA), I want to thank you for the opportunity today to address the subcommittee on Environmental Protection and Public Works. My name is Ken Alkema and I am the Director of the Department of Environmental Quality for the State of Utah.

It is my plan to respond to your concerns about the proper management of mining wastes in detail and to provide the consensus opinion of the Mine Waste Task Force, but I want to initially highlight what I consider to be the key issues.

First, the States have recognized for a long time that mining wastes must be managed to insure protection of the environment. We have put in place comprehensive programs for protecting air, ground and surface water, and soil quality. We continue to improve our programs and our efforts as we work together in identifying what additional controls are needed. We have developed expertise on the management of mining wastes from heap leaching operations and copper mining to phosphate mining from Florida to California. We have seen the successes and the failures and have learned from both. No one else has this first-hand expertise.

Second, although we have done much to insure proper management of mining wastes; there is a need for a properly designed and implemented Federal presence for regulating mining wastes. The two major reasons for supporting a Federal effort in my mind are (1) to establish appropriate minimum performance standards that all States would be required to meet in their mine waste programs; and (2) to provide provide credibility to States' existing and future efforts in managing mining wastes through properly designed audits and oversight of State programs. While there are many other considerations that support the development of a Federal mine waste program, these two seem to be the most important. The public must be convinced that these wastes are being properly managed throughout the country. The Federal Government must also be willing to defer to State efforts for managing active mine wastes. The current system of duplication through Federal statutes such as CERCLA, Clean Air Act, etc., is unworkable and ineffective. Federal legislation must make it clear that a State mine waste program set up under the Federal guidelines will be the accepted way of managing all aspects of mining wastes associated with active facilities.

Given the status of the public concern over waste management in general, it would not be practical to consider any other alternative short of direct Federal involvement. It is my opinion that there are other methods that can be used to evaluate State programs and efforts that will provide for State action short of the development of a Federal program but, in the case of mine wastes, these other techniques are not viable.

Third, the Federal efforts must be based on existing State programs through establishment of performance standards that provide for flexibility. Public health and the environment must be protected but the significant physical differences between

States and regions must be part of the decision making on specific controls that will be required at each facility.

Fourth, the use of a subtitle C type of program would be disastrous not only to States who could not find the resources to implement this type of the program, but to the environment because efforts would fail from the inability of "C" to be able to consider the mining activity as a whole.

Fifth, Federal legislation must clearly define State and Federal roles that provide for State based programs and a Federal audit and program review process that insures excellent State programs without day-to-day Federal involvement. This flexibility would provide that States would comprehensively consider mining activities that have a potential to contaminate the environment.

The Mine Waste Task Force of which I am the acting chairman is composed of 15 States which contain nearly 90 percent of the mineral extraction, beneficiation and processing activity in the United States as defined in sport to Congress I published in 1985. Although the Task Force is operating under the auspices of the Western Governors' Association, the Task Force includes non-members from the midwest and the east which broaden the experience and perspective of the group. Peprerented on the Task Force are individuals from the State natural resource management departments and the State health and environmental protection departments. The diversity of this Task Force is one of its strengths.

In addition, the Task Force works closely with the Interstate Mining Compact Commission which represents another 16 States. Together, these two multi-state groups offer a comprehensive perspective by the major mining States on the various issues involving the regulation of mining wastes. My comments today are provided on behalf of both groups.

The Task Force was formed in the spring of 1988 at the request of Governor Bangerter of Utah and has met on at least a dozen occasions since then. The Task Force is funded by EPA, and its major focus has been to respond to EPA's preliminary draft re ations for mine waste under Subtitle D of RCRA. A separate issue that the Force has dealt with is the problem of environmental and public safety concerns related to inactive and abandoned mines. The Task Force and the IMCC will soon release a study which identifies the universe of policy options for dealing with the cleanup of these abandoned sites. We believe many inactive and abandoned mines pose a significant threat to public health and the environment. We will make copies of this study available to the subcommittee.

The Mine Waste Task Force has reached consensus on the elements of a mine waste program. This consensus is based on the commitment of the States to insure that public health and the environment are protected and to develop programs that properly manage all aspects of mining wastes. States are not waiting for Congress to develop programs for managing mining wastes. We have all aggressively developed comprehensive programs to insure that all aspects of mining are protective of the environment and public health. These efforts include the establishment of ground water, surface water, air, and soil protection programs that apply directly to mining activities.

The States are currently involved in a structured dialog with Federal agency, mining industry, and environmental representatives to attempt to develop a consensus Federal mine waste regulatory structure. This dialog is called the Policy dialog Committee and we are hopeful that this process will yield some clear recommendations to this subcommittee on the treatment of mining waste under RCRA.

Pending consensus from that group, I offer to you today the States' views on Federal regulation of mine wastes. My remarks will attempt to answer the three critical questions that you will be asked to decide:

- Do we need a Federal mine waste regulation?
- If yes, then how should it be structured?
- And finally, how will the new program be financed?

*Do we need a Federal mine waste regulation?*

For the purpose of background, let me first tell you a little bit about State regulation of mining waste. Although existing regulatory programs vary from State to State, all the States in the Task Force regulate mining activity and mine waste. This is mostly accomplished through a combination of water quality, air quality, solid waste management and mined land reclamation programs. Many State programs are very comprehensive, whereas others may regulate phases of mine waste disposal or focus upon protection of environmental media. States have a long and active record in regulating mining wastes. Our experiences should be drawn upon as well as built upon in designing any new Federal mine waste rule.

It is difficult for me to describe to you in the brief time I have today the different programs and systems used by the States; however, the Task Force and the IMCC have produced reports which describe existing State programs. The reports are based upon surveys of State personnel responsible for mining and environmental protection. They show, on a State-by-State basis, what regulatory mechanisms are in place that relate to the environmental impacts of mining activity and also what gaps existed at the time of publication. I ask that they be made part of the official record.

It should be noted that States have continued to improve their programs since the inception of this work effort. For example, Colorado passed legislation which provides guidance and clarifies agency responsibilities for protection of ground water and non-point source discharges, and Utah adopted ground water protection regulations. Nevada, Missouri and South Dakota have all enacted changes to strengthen their programs in the last year. Other States have also passed new legislation and made other improvements recently.

Ten years ago when RCPA was still new, it was anticipated that a Federal mine waste program was inevitable. There were many major gaps in the States' programs for environmental protection from mining wastes. However, over the last ten years those gaps have narrowed considerably. These changes are due to increased environmental consciousness, stronger environmental lobbies, a strong commitment to State primacy, and most recently in reaction to possible Federal action. We recognize that some States' programs are perhaps stronger than others, but it is fair to say that every State with mining activity has a program in place to protect the environment and every program is getting stronger.

Do we need a Federal program? The States are on record as a group in support of a Federal program under RCKA Subtitle D. As I have stated, there is a need for a Federal program to provide an endorsement of the efforts of States that have already developed a comprehensive program and to provide minimum performance standards for those States who have not.

I would like to see the Congress move quickly to establish a Federal mine waste program along the lines that I have described. If the Congress decides that a national program is not the best approach to enhancing and encouraging environmental protection from mining activities or decides that the comparative environmental risk of mining activities is overshadowed by other pressing national environmental issues, the States will find ways for further improvement in State programs where needed. However, the duplication of existing Federal efforts and State efforts and public acceptance of State mine waste programs will still be an unacceptable problem.

*If a Federal program is developed, how should it be structured?*

In considering how mine wastes can be managed to protect public health and the environment, we have concentrated on what programs will work best. As we have developed this ideal program, it has become obvious that it does not fit the existing subtitle C program in any way. There is no way to force a mine waste program into a C mold. It just will not work. Mine wastes pose unique problems with volumes of wastes, locations of wastes, and the need to manage processes in addition to waste disposal. To effectively manage these wastes, a program must be specifically designed that considers all of the issues that surround mining activities.

The States have focused less on how a Federal program should be structured but rather more on what principles should guide the development of Federal requirements. Our strong belief is that Federal requirements should not be disruptive of existing State programs where there is already effective regulation of mine waste, while such requirements should provide assistance and incentives to States to strengthen their programs where it is needed.

With this in mind, the Task Force's response to EPA's Strawman advocated a program concept that established broad based Federal performance standards necessary to ensure protection of the public health and the environment, yet provided flexibility to meet those requirements. The reasons for flexibility instead of a nationally mandated approach are twofold. First, States are very different in their geologies, climate, agency structures, and political institutions. Second, in many cases a prescriptive, nationally mandated approach would become a ceiling rather than a floor of environmental coverage and protection.

To illustrate why flexibility is important, I offer you these contrasts. Parts of South Carolina receive over 50 inches of rain per year. Parts of Nevada receive closer to 5 inches of rain per year. As a result, Nevada can expect total containment by surface impoundments while South Carolina will need to address possible discharges from impoundments. Another example is the distance to ground water. In



parts of South Dakota the distance to ground water is 3500 feet with 1000 feet of that distance pure shale. In Florida, the distance to ground water is measured in inches.

Let me briefly outline how the States envision a Federal mine waste program working.

In formulating a State specific plan to implement a Federal mine waste management program under an amended Subtitle D of RCRA, we believe the States would be judged by a broad based set of Federal performance standards or regulations which establish the necessary components of a program to meet national standards. In addition, we anticipate that EPA would provide guidelines and supporting, but non-regulatory, suggested alternative programs or models which could be used by States in developing their programs.

States would begin with a foundation of their existing State laws, regulations, standards, and programs which commonly cut across many departments. These departments encompass environmental, public health, natural resource, and related disciplines. Using the new RCRA mine waste program regulations and guidelines, each State would scope an upgraded program using existing programs, new policies to fill statutory and regulatory gaps, and modified organizational structures to provide for state-wide coordination. This early program scoping would involve EPA and the public prior to preparation of a draft plan which would be released for formal public review.

Once publicly reviewed and revised as necessary, the State would adopt the State plan and begin implementation. The adopted State plan would be forwarded to EPA for final review. A Federal acceptance process is provided to allow back-up Federal enforcement or program revocation, full or partial, should subsequent EPA program audits give cause for such action. The only other avenues where Federal enforcement should be initiated would be in defined circumstances involving RCRA defined imminent threats to public health or the environment or by invitation from the State.

Should a State not be able to implement a State mine waste management plan which met all components of the Federal program, the EPA should establish and enforce a partial program for only the missing components.

Once a State approved program is implemented, EPA functions should be limited to periodic scheduled program audits. No individual permit oversight or independent enforcement by EPA should be involved in the routine operation of the program. We prefer that the State plan would be reviewed by EPA at a minimum of every five years.

#### *How will the new program be financed?*

Because of legislatures that meet every other year in some States, plan development allowing adequate time and opportunity for public involvement, and regulatory development considerations, States have estimated it will take between three and five years to get some State programs revised and approved. Start-up costs during this time range from \$100,000 to \$500,000 per year per State. Once programs are in place, States have estimated that ongoing yearly costs could be anywhere from \$100,000 per year to as high as \$3,500,000 per year by one State's estimate. These figures are based upon States' assumptions regarding EPA's relative flexibility in determining what would meet the national performance standards, the amount of EPA oversight envisioned, and other variable factors. State budgets are very tight nationwide. The States are very clear that they will need, and they expect, Federal monies to finance these new, federally imposed costs. The States believe that Federal funding assistance can be minimized depending upon the level of Federal oversight and program restructuring imposed.

In closing, let me say that, regardless of whether Congress determines that the regulation of mine waste should be based in RCRA or a stand-alone program, the States' views are essentially the same. If a Federal program is determined to be necessary, it should be State based and take into account site specific, waste specific and waste management specific practices. To the maximum extent feasible, any program regulating the disposal of mine waste should rely on existing State programs. And in any federally mandated program, the Federal Government should provide the necessary funds to implement and maintain this program.

These views reflect the principles outlined by the member governors of the Western Governors Association. Their policy position is attached to my testimony. In addition, I have attached to this testimony a list of the policy principles that the Task Force established regarding the development of a mine waste program under RCRA. These points would be pertinent in the establishment of any Federal program that

regulates the management of mine waste. I have also included a listing of States that have participated in this effort through WGA and IMCC.

The States look forward to working cooperatively with Congress on the issue of mine waste. I would be happy to answer your questions at this time, Mr. Chairman.

#### POLICY PRINCIPLES OF THE WESTERN GOVERNORS' ASSOCIATION MINE WASTE TASK FORCE

● *State Based Implementation:* It is important to the States that RCRA reauthorization and any subsequent EPA regulation, establish a State based approach for protection of public health and the environment. Because specific site, waste and waste management practices must be taken into account, State level management of these wastes must be relied on to insure that regulation is effective and sensible. Reliance on State regulatory programs and permit structures should be the foundation of any RCRA mine waste program.

● *State Plan Process and Components:* The Task Force strongly recommends that RCRA reauthorization include specific language to emphasize the State's role in mine waste management. Specific provisions should provide for: 1) State adoption and implementation of a State based solid waste management plan; 2) an emphasis on health and environmentally based performance standards; and 3) a State designed multi-media approach. The States believe that a more effective and comprehensive mine waste management program will result if implementation occurs in this manner.

● *Federal Oversight:* The States recommend that RCRA reauthorization should include specific language that defines Federal oversight of State plans. Federal oversight should be focused upon State program effectiveness, measured through periodic performance audits. Direct involvement of EPA in State program activities should occur only under the following conditions: 1) failure of a State to implement and enforce its plan; 2) invitation by the State for EPA support or direct enforcement; 3) specific circumstances agreed to between the State and EPA during the State plan development; and 4) in the case of enforcement, where there is an imminent threat to human health or the environment that is not being effectively resolved by the State. Whenever EPA has a reason to believe that a State has failed to implement and enforce its plan, EPA should always notify the State and attempt to resolve issues through a cooperative process.

● *Avoid Program Duplication:* A Federal mining waste program should not be duplicative of State and Federal regulatory programs that are protective of human health and the environment.

● *Inactive and Abandoned Mines:* Health, safety and environmental problems associated with non-coal inactive and abandoned mines and mine wastes need to be corrected. RCRA may not be an adequate vehicle to correct these problems. Options to correct these problems, such as reining and removing disincentives associated with CERCLA, need to be carefully evaluated by the State and the Federal Government to insure that the environment is protected and that the protections provided by CERCLA and other statutes are not eroded.

#### WESTERN GOVERNORS' ASSOCIATION

SPONSOR: GOVERNOR BANGERTE; SUBJECT: SOLID WASTE MANAGEMENT

##### A. Background

1. The Resource Conservation and Recovery Act (RCRA) establishes the basis for a national framework for managing solid waste. Solid waste includes municipal and industrial wastes as well as certain mining wastes.

2. Congress is actively considering several bills that would significantly amend the solid waste requirements of RCRA.

3. Nationally, there is public consensus that there is a need to reduce the amount of waste generated, to reuse or recycle materials, and to protect the environment from improper waste disposal practices. This consensus is primarily due to a rapid reduction in available landfill capacity, difficulty in siting new solid waste facilities, serious environmental impacts to groundwater from past solid waste disposal practices, and an increased public awareness and concern for solid waste issues in general and recycling and waste reduction initiatives in particular.

4. Solid waste issues have historically been addressed at the State and local levels. The Federal Government has been responsible for setting national goals and guidelines to assist State and local governments.

5. The Western Governors' Association is already actively involved with certain key aspects of the solid waste issues. WGA has recently prepared a report for the

governors on the interstate flow of solid waste in the West and the causes of those flows.

Based on the 1988 WGA "Regulation of Mining Waste" resolution (88-004), a WGA Mine Waste Task Force was established. The Task Force is actively working with the Federal Government to establish a mine waste policy that will be protective of public health and the environment through the continued emphasis on State-based mine waste regulatory programs.

6. Solid waste management must consider a wide variation of waste types, geology, geography, meteorology, land use, population, etc. Many specific wastes and locations are unique and require very site specific solutions.

7. Federal lands have been utilized in the West for solid waste disposal. Siting of these disposal facilities on Federal land is now becoming difficult.

#### *B. Governors' Policy Statement*

1. The governors believe that solid waste management is an issue best addressed at the State and local level. The governors recommend that any reauthorization of RCRA and subsequent regulation establish a State-based approach for the protection of public health and the environment. RCRA should build on existing State and local regulatory programs and permit structures. Any federally mandated performance and management standards should take into account specific geographic and demographic conditions existing in the West.

2. The governors recommend that RCRA reauthorization include specific language that defines the Federal role in solid waste management. The level of Federal oversight and management of solid waste must rely on the States in a leadership role rather than imposing a process similar to authorization and oversight for hazardous waste regulation.

Federal oversight should be focused on State program effectiveness. The Federal Government should not be routinely involved in permitting actions or enforcement. The Federal effort should concentrate on improving State programs. If a State fails to implement its solid waste plan, the Federal Government, after appropriate notice and input from the State and public, should have the ability to withdraw approval of the State program.

3. The governors strongly recommend that RCRA reauthorization include specific language supporting State-based regulation of mine waste management. RCRA should provide for 1) State adoption and implementation of a State-based mine waste management plan, 2) an emphasis on health and environmentally based performance standards, and 3) a State designed multi-media program which protects the surface and groundwater, soils, air and ensures the structural stability of mine wastes.

The governors believe that there is a need to correct health, safety, and environmental problems associated with non-coal abandoned and inactive mines and mine wastes. However, RCRA is not an adequate vehicle to correct these problems. The governors further believe that the options to correct these problems, including encouragement of re-mining of existing sites, need to be carefully evaluated. The WGA Mine Waste Task Force is conducting a scoping study to determine the size of the problem and the potential options for remediation and reclamation.

4. Federal, State, and local governments must all work together in the area of pollution prevention (waste minimization), waste reduction, and recycling. The Federal Government must take a leadership role in dealing with the national issues such as packaging; use of virgin materials; market development for recyclables, including Federal procurement of recycled goods; etc.

5. EPA should provide the financial support to the States to ensure that the States have sufficient resources to implement effectively any Federal solid waste mandates.

#### *C. Governors' Management Directive*

1. WGA staff shall transmit this resolution to the appropriate congressional committees, the western congressional delegation, and the Administrator of the Environmental Protection Agency.

2. WGA staff shall monitor this legislation and inform the governors of policy and program implications for the western States.

Adopted unanimously.

## STATEMENT OF APPALACHIAN OIL AND GAS PRODUCERS

## I. EXECUTIVE SUMMARY

As the reauthorization of RCRA is considered, Appalachian oil and gas producers urge that Congress continue in effect the provisions of RCRA which allow State and Federal regulatory agencies the flexibility to regulate oil and gas waste outside the scope of RCRA Subtitle C. As EPA concluded in its Report to Congress filed on December 31, 1987, the regulation of these wastes under RCRA Subtitle C is unnecessary and impractical. Instead, EPA recommended the implementation of other existing State and Federal requirements to regulate oil and gas wastes.

In this regard, a major initiative has been undertaken by the Interstate Oil and Gas Compact Commission ["IOGCC"], pursuant to a grant from EPA, to establish the elements necessary for an effective program to regulate oil and gas waste on a State-by-State basis. In December 1990, an IOGCC committee co-chaired by Governors George A. Sinner of North Dakota and Garrey Carruthers of New Mexico issued a comprehensive set of recommendations for the formation of State programs and called for the review of State programs under the coordination of the IOGCC. This review has already begun. We share the conclusion reached by EPA in its Report to Congress that most States have adequate regulations to control most impacts associated with these wastes. We have no doubt but that the IOGCC efforts will further improve all State programs.

Any decision to impose RCRA Subtitle C regulation, or, for that matter, any other significant new Federal program on the oil and gas industry, will have a devastating impact on the industry as a whole and on producers in the Appalachian States where the vast majority of oil and gas wells are extremely small and economically vulnerable. Based upon a survey of nearly 20,000 of the approximately 200,000 wells that exist in the Appalachians, even an annual cost increase of as little as \$200 per year would cause 11 percent of all wells to be plugged and abandoned. Increased costs of \$2,000 per year would render 32 percent of all wells uneconomical. Such an impact with the resulting loss of vital energy reserves and the enormous cost of well plugging is clearly unwarranted given the adequacy of existing State and Federal regulatory programs.

Accordingly, Congress is urged to continue the exemption of oil and gas waste from RCRA subtitle C regulation.

## II. INTRODUCTION

This statement is offered on behalf of the Appalachian Producers, an ad hoc affiliation of the following nine State oil and gas trade organizations representing oil and gas producers in seven Appalachian States: Independent Oil and Gas Association of New York; Independent Oil and Gas Association of Pennsylvania; Independent Oil and Gas Association of West Virginia; Kentucky Oil and Gas Association; Ohio Oil and Gas Association; Pennsylvania Oil and Gas Association; Tennessee Oil and Gas Association; Virginia Oil and Gas Association; and the West Virginia Oil and Natural Gas Association.

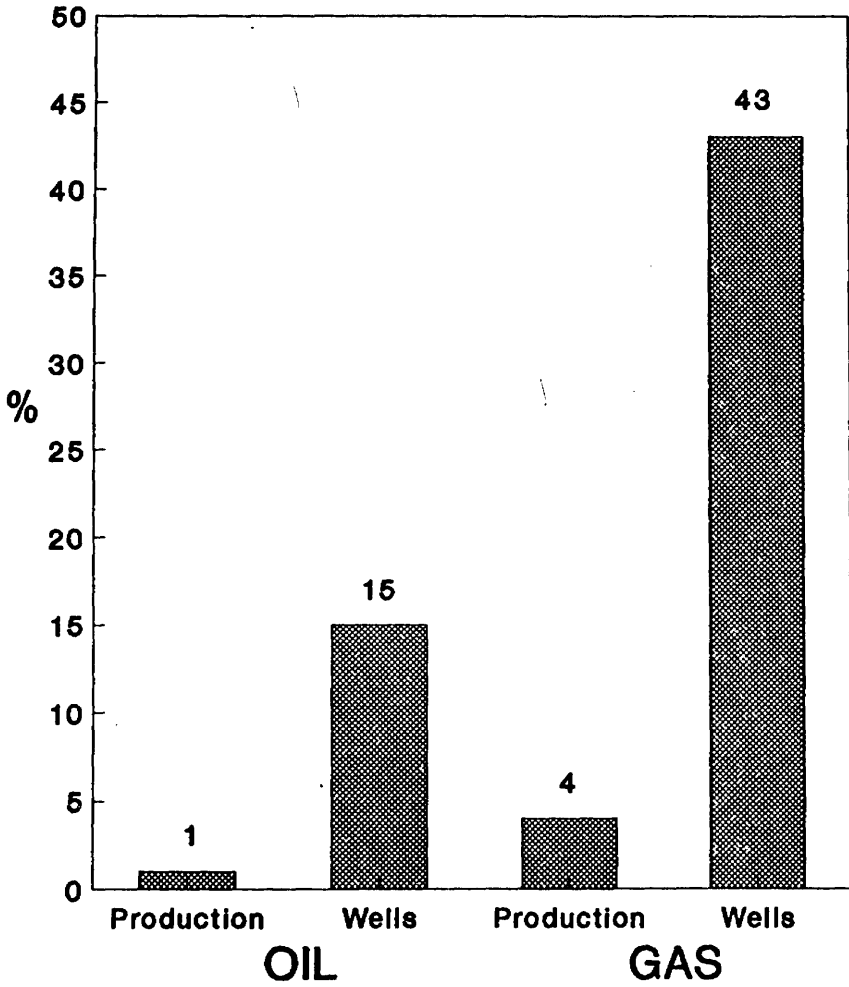
The Appalachian Producers are vitally concerned about the manner in which oil and gas drilling and production waste is regulated. They urge that Congress continue in effect the provisions of Section 3001 of the Resource Conservation and Recovery Act ["RCRA"] which exempt oil and gas wastes from regulation as hazardous waste pursuant to Subtitle C of that Act.

The Appalachian Producers participated extensively in the study by the United States Environmental Protection Agency ["EPA"] which resulted in the filing on December 31, 1987 of the Report to Congress on the waste management practices of drilling fluids, produced water and associated wastes. Since the completion of EPA's study, the Appalachian Producers have also participated extensively (along with regulatory agencies and environmentalists) in the Interstate Oil and Gas Compact Commission's ["IOGCC"] Council on Regulatory Needs. This Council was responsible for the publication in December 1990 of the "EPA/IOCC Study of State Regulation of Oil and Gas Exploration and Production Waste." The Appalachian Producers are also extensively involved in the on-going review of State oil and gas regulatory programs currently being conducted by the IOGCC.

As Congress addresses the reauthorization of the RCRA, the Appalachian Producers again desire to participate not only to express their general support for preserving the existing oil and gas wastes exemption, but also to convey to Congress an appreciation of the unusual set of circumstances that surround oil and gas production in the Appalachians.

To understand how any regulatory program would impact on Appalachian operations, Congress must recognize that while the Appalachian States produce relatively small amounts of oil and gas production, they have a large number of wells. For example, as can be seen in Table 1, the region has only 4 percent of the nation's natural gas production, but it has 43 percent of the nation's natural gas wells. For oil, Appalachia has 1 percent of the oil production and 15 percent of the oil wells. Moreover, even with this relatively small amount of production, 15 percent of all new wells drilled in the Nation in 1990 were drilled in the Appalachian States.

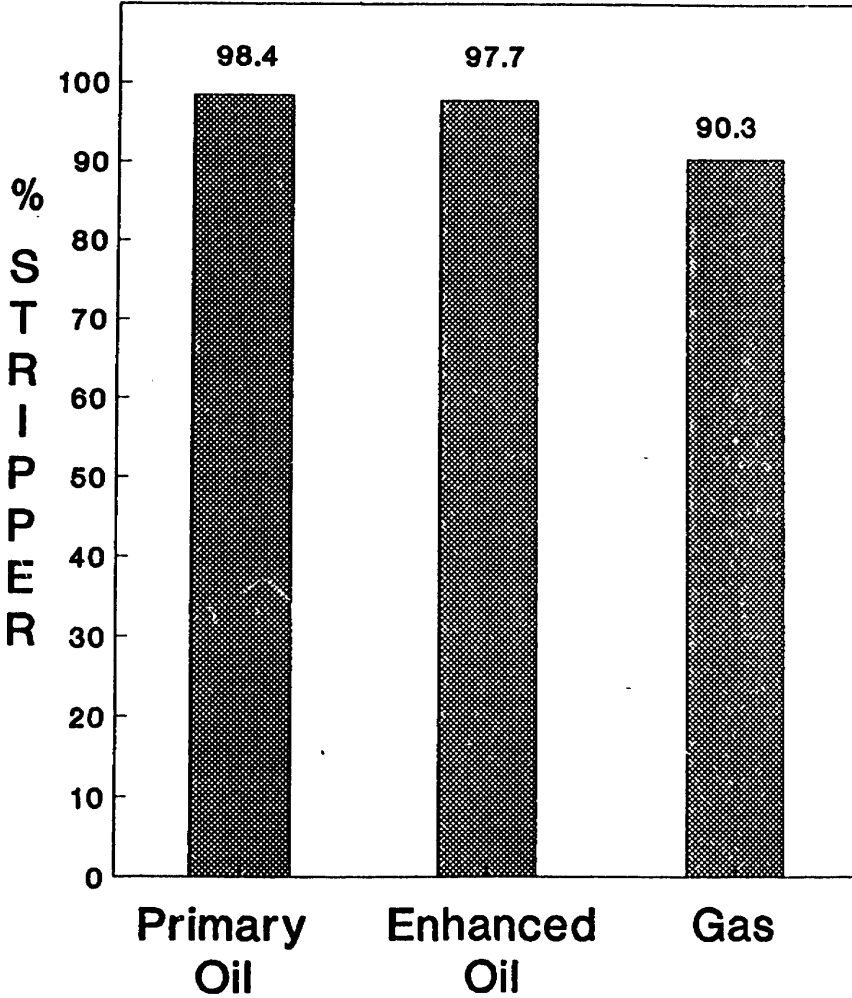
**Table 1**  
**Relationship of Appalachian Oil and Gas**  
**Production and Number of Wells**  
**to the Nation.**



While the volume of Appalachian production is small, Appalachian crude oil and natural gas are strategically important. Our crude oil accounts for only 1 percent of the nation's total oil production, however, it contributes more than 14 percent of the nation's lubricants and more than 24 percent of the nation's automobile lubricants with additives. Our natural gas production is also important beyond its mere volume because of its close proximity to major northeast markets and because of the extensive use of geologic formations in the Appalachians for storage and recovery of natural gas.

Appalachian wells produce such small amounts of crude oil and natural gas that they nearly all qualify as stripper wells. Results of our 1990 survey of the Appalachian oil and gas industry as shown in Table 2 reveals that 90.3 percent of the gas wells, 98.4 percent of the primary oil wells, and 97.7 percent of the enhanced recovery oil wells are stripper wells. This makes the entire Appalachian region extremely sensitive to costs.

**Table 2**  
**Percentage of Appalachian Wells that are Stripper Oil**  
**(less than 10 barrels per day) or Stripper Gas**  
**(less than 60 mcf per day).**





A unique combination of waste disposal practices have evolved in Appalachia. The climate, geology and hydrology of the region, as well as the nature of the region's drilling and production wastes, have resulted in less reliance on such disposal techniques as evaporation and centralized underground injection and in greater reliance on such disposal techniques as land-application and stream discharge.

These factors and others, taken individually or collectively, create a very special set of circumstances that characterize Appalachian production.

### III. EPA'S REGULATORY DETERMINATION FOR E&P WASTES

RCRA as amended in 1980 required that EPA conduct a study of the oil and gas industry to assess the environmental and potential human health impacts associated with exploration and production. The results of that study were published in a Report to Congress filed on December 31, 1987.

As a result of that study and related public comments EPA determined that Federal regulation of E&P wastes as hazardous wastes under Subtitle C of RCRA was not justified. EPA's rationale offered for this determination included the following statement:

Existing State and Federal regulatory programs are generally adequate for controlling oil, gas and geothermal wastes. Regulatory gaps in the Clean Water Act and UIC [Underground Injection Control] program are already being addressed, and the remaining gaps in State and Federal regulatory programs can be effectively addressed by formulating requirements under Subtitle D or RCRA and by working with the States. (53 Fed. Reg. 25446, 25774, July 6, 1988).

EPA also concluded that imposition of RCRA Subtitle C regulation on the oil and gas industry would have a substantial impact on the U.S. economy and that the impacts would be especially significant to stripper wells. EPA committed itself to work with the States to improve existing programs.

### IV. EPA/IOGCC STUDY OF STATE REGULATION OF OIL AND GAS EXPLORATION AND PRODUCTION WASTE

The EPA/IOGCC report addressing State regulation of oil and gas exploration and production waste is a direct result of EPA's efforts to work cooperatively with the States. The goal of the IOGCC Council on Regulatory Needs' two-year project was to provide to States and EPA a report recommending the elements necessary for an effective State regulatory program. The criteria recommended by the Council, co-chaired by Governors George A. Sinner of North Dakota and Garrey Carruthers of New Mexico, address the basic framework for permitting, compliance evaluation, and enforcement. Administrative necessities are also outlined with regard to contingency planning, public participation, financial assurance, waste hauler certification, waste tracking, location of closed disposal sites, and data management. Assessment of the status of an agency's personnel and funding, as well as coordination with other State agencies to eliminate duplication and expense are also among the essential elements of the criteria.

The technical criteria for E&P waste management practices set forth in the EPA/IOGCC report address pits, land applications, centralized and commercial facilities. States are encouraged by the Council to establish and implement specific performance standards and design specifications based on regional differences in geology, hydrology, climate and waste characteristics.

Currently, the IOGCC has established a State Review Committee consisting of representatives of those who participated in preparation of the December 1990 oil and gas waste management criteria as well as local State agency, industry and environmentalist representatives. To date, the IOGCC State Review Committee has reviewed the program for the State of Wyoming and will review the program for Pennsylvania later this year.

Clearly, meaningful steps are being initiated to further improve State oil and gas regulatory programs.

### V. ECONOMIC IMPACT OF ADDITIONAL REGULATION

Based upon EPA's Report to Congress, there is simply no justification for any new Federal hazardous or non-hazardous waste regulations to be applied to oil and gas E&P wastes. EPA's Report to Congress is correct in concluding that existing State and Federal regulatory programs are adequate to protect the environment. EPA's Report to Congress not only recognizes the severe economic impacts that would be realized by the nation's oil and gas industry if hazardous waste regulatory require-

ments are imposed the, Report also recognizes the even greater impact that would be borne by stripper wells such as those that predominate Appalachian production.

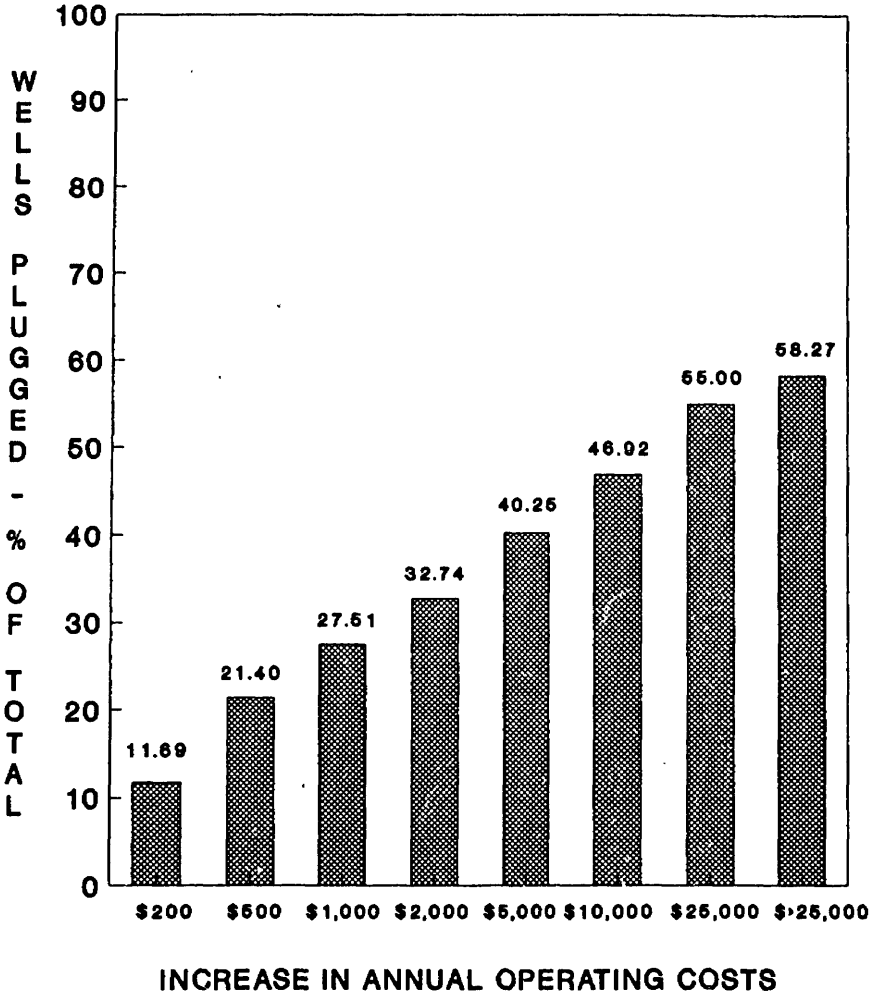
In an effort to gather economic data sensitive enough to determine the impact on Appalachian production, the Appalachian Producers have conducted a survey of the Appalachian oil and gas industry which illustrates the unique and fragile economics of the region. This survey involved nearly 20,000 wells (nearly 10 percent of all wells located in the Appalachians). From surveys conducted in 1987 and again in 1990, it is apparent not only that nearly all producing wells in the Appalachian region are stripper wells, but also, that the wells are small stripper wells. For example, even though a stripper oil well is defined as producing 10 barrels or less of oil per day, our survey of Appalachian wells reveals that 89 percent or all primary oil wells produce less than one barrel of oil per day. In the case of gas wells where stripper production is defined as being less than 60 MCF per day, our survey reveals that 76 percent of all Appalachian gas wells produce less than 30 MCF per day. Wells that were not stripper wells initially, become stripper wells after only a year or two of production.

Recognizing that 89 percent of all primary oil wells produce less than one barrel of oil per day, we have set forth in Table 3 a brief summary of operating income and expenses for a typical Appalachian oil well which produces 0.93 barrels of oil and 2.8 MCF of gas daily. In such a case, the net revenue of \$600.44 per month (after payment of a 1/8th royalty) would be offset by a typical monthly operating cost (not including overhead) of \$375.64. After State and/or county production taxes, the net operating income of 89 percent of typical Appalachian wells is \$168.37 per month—approximately \$2,020.44 per year.

Table 3.—Operating Income of a Typical Appalachian Oil Well

<b>Revenues</b>	
Gross oil sales, Bbbl/Mo (Based on .93 BOPD) .....	28.27
Net oil sales, Bbbl/Mo (After 1/8 royalty) .....	24.74
Net oil revenue, \$/Mo @ \$19.00/BO) .....	470.06
Gross gas sales, MCF/Mo (Based on 2.8 MCF/D) .....	85.1
Net gas sales, MCF/Mo .....	74.5
Net gas revenue, \$/Mo @ \$1.75/MCF .....	130.38
New Company Revenue, \$/Mo .....	\$600.44
<b>Expenses</b>	
Salaries and Wages .....	93.42
Employee Benefits .....	50.43
Transportation, Service Equip. ....	27.77
Contract Services and Equip. ....	10.34
Pump Repairs .....	1.79
Fuel and Power .....	5.30
Materials and Supplies .....	18.44
General Field Expense Dist. (Foreman time and field accounting) .....	55.00
Compressor Expense .....	46.70
Brine Disposal .....	17.69
Other (Right-of-way and road maint., solvents, lubricants, etc.) .....	48.76
Total Operating Expense, \$/Mo .....	375.64
Production Taxes .....	56.43
Net Operating Income (\$/Mo) .....	\$168.37/Mo (\$2,020.44/Yr)

**Table 4**  
**Effect of Increased Operating Costs**  
**on Appalachian Oil and Gas Wells**  
**Based on 1990 Survey of 19,875 Wells.**



A significant portion of our 20,000 well survey was devoted to the determination from the operator's perspective of how increasing costs would impact on existing wells. These results of this survey, shown in Table 4, indicate that as little as a \$200 increase in annual costs will cause 11 percent of all wells to be rendered uneconomical forcing them to be plugged and abandoned. Increased annual costs of \$2,000 would cause 32 percent of all wells to be plugged and abandoned. Given the existence of some 200,000 wells in the Appalachians, a \$2,000 cost increase would result in the plugging of some 64,000 wells. In addition to loss of the oil and natural gas related to these wells, the Appalachian producers would be required to incur plugging costs of approximately \$640,000,000 (assuming an average plugging cost of \$10,000 per well).

In addition to the impact on existing wells, the expected return on investment of new wells to be drilled would drop several percentage points as a result of a \$2,000 increase in annual operating costs and several points because of a corresponding increase in drilling costs. This means that a large percentage of wells that might have otherwise been economical to drill would not be started because of these additional regulatory costs. Even the wells that were still economical to be drilled would have a shortened production life because of the additional costs. Of the 15,000 to 20,000 wells that would otherwise be drilled each year in these seven Appalachian States, thousands would never be initiated. Costs that might otherwise seem insignificant to wells with a stronger economic basis become matters of major concern for Appalachian wells.

If this type of economic impact were necessary to correct a significant environmental problem, the public policy issue at hand would be more difficult. However, such is not the case. As has been determined by EPA, existing regulatory programs are adequate to assure the proper management of oil and gas wastes. Continued efforts by EPA and the IOGCC to work cooperatively with the States to refine their regulatory programs is the most effective way to continue to protect the environment and to preserve a viable domestic oil and gas industry.

#### VI. CONCLUSION.

The oil and gas industry is of major importance to the United States. Beyond the contribution which the industry makes in terms of jobs and tax revenue, the oil and gas industry plays a vital role in the country's balance of payments and national security. It is not in the best interest of the United States to continue to rely on energy sources that are external to our borders and vulnerable to the volatilities of foreign government. The Gulf War should serve as a reminder of how dependent the United States has become on foreign oil.

The common interest of the oil and gas industry, regulatory agencies, environmentalists and the public is the protection of human health and the environment. EPA's Report to Congress found that the oil and gas industry waste rarely pose significant threats to human health or the environment when managed in accordance with existing regulatory programs. The differing States and regions of the country have unique environmental conditions which do not lend themselves to a uniform national program. The individual States are best suited to fashion appropriate environmental regulatory programs for oil and gas wastes, while recognizing the economic capabilities of the oil and gas operations they regulate. The Appalachian Producers urge Congress not to revise the Federal hazardous waste program as it regulates the oil and gas industry and, instead, to rely on existing State and Federal regulatory authority to regulate the management of oil and gas waste.

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#### STATEMENT OF DOMESTIC PETROLEUM COUNCIL

This statement and case study are submitted on behalf of the Domestic Petroleum Council. The Domestic Petroleum Council ("DPC") is a national trade association representing 17 medium to large independent companies actively engaged in the exploration and production of domestic crude oil and natural gas. DPC companies are committed to carrying out their operations in a manner that protects human health and the environment.

Statements submitted on behalf of other oil and gas trade associations explain why the issue of oil and gas exploration and production wastes is of such importance to our industry and detail how proposed changes in existing procedures will have immediate and dramatic consequences for domestic energy production and America's energy security. The econometric study recently completed for the Ilerican Petroleum Institute ("API") by Gruy Engineering of Dallas, Texas estimates the additional costs associated with proposed new requirements on E&P wastes if they

were brought under the regulatory scheme outlined for non-hazardous industrial wastes in S. 976.

DPC believes that it would be helpful to the subcommittee to illustrate the impact of the proposed new RCRA requirements on a typical oil and gas property currently producing in the State of Texas. A cash flow analysis was run on an existing lease with oil, gas, produced water, and operating expense projections. Then a second run was made with the additional cash outlays required to comply with the projected regulatory requirements described in the Gruy Engineering Study. Those analyses vividly demonstrate that the proposed new regulations would have significant economic impacts on this property without any observable corresponding improvements to the environment.

Attachment I to my statement is a lease plat of the test case lease. This lease consists of six producing oil wells and one water disposal well which is injecting produced water 2,000 feet below the oil producing reservoir. The production volumes consist primarily of oil with some gas and water. The same criteria and assumptions could be applied to gas wells with approximately the same results.

Attachment II is the projected lease performance to economic limit under current regulations. Development began in 1988 with the drilling of six successful producers. Production from the six producing wells peaked in 1989 at 144 barrels of oil per day (24 BOPD per well). Water production began immediately at 6 barrels of water per barrel of oil. This necessitated the expense of a disposal well to properly dispose of produced water. Gas production consists of 0.3 MCF per barrel of oil produced. This ratio was held constant in the projections.

As can be observed on the graph, oil production declined at an annual rate of 12 percent as the reservoir pressure was depleted. Water production increased at a constant rate commensurate with similar reservoirs of this nature. Two and one half years of performance enabled a projection to be made of future performance. The same projections were used in both cases for the cash flow comparisons. Oil prices were held constant at \$20 per barrel, gas prices at \$2.00 per MCF and operating costs were held constant from 1991 figures.

A second run was made altering only the increased cash requirements as a result of the new Subtitle "D" classification for exploration and production wastes. Attachment III outlines these added costs, which were taken from the Gruy Study for consistency. A major assumption was made here, however, that should be noted—no corrective actions were required for permit compliance. Therefore, in our example no allocations of money were made for corrective actions. If a RCRA facility investigation were required, \$300,000 would have to be spent to determine if remediation is required.

Attachment IV graphically depicts the results of the Base Case Subtitle "D" cash flow analysis. The economic limit was increased from 3.8 BOPD to 7 BOPD per well. The economic life of the lease was decreased from 12 years to 8 years, resulting in lost reserves, lost taxes and royalties, lost work for multiple employees and lost incentives for continued development.

Attachment V compares the results of the economic analysis. In summary, the Subtitle "D" case resulted in reducing the producing life by one third, reducing the recoverable reserves by 20 percent, and a large increase in cash outlays that, in most cases, would be very difficult for any oil producer, particularly the independent who is so dependent on immediate cash flow, to drill additional wells.

In preparing this presentation, it should be noted that several assumptions were made which, if changed, would portray an even less attractive scenario. Operating expenses remained constant and no corrective actions were required on site. Even the selection of the lease was representative of the upper end of well production quality. Attachment VI is a graphical representation of U.S. onshore oil well population by quality. For example on the graph, the first bar represents wells making 0-60 barrels of oil per month or less than 2 barrels of oil per day. These wells constitute nearly 50 percent of all oil producing wells. The example of 17 BOPD per well is in the top 2 percent of all oil producing wells. This means that 98 percent of all oil producing wells would suffer greater hardships than this example and potentially could be shut in immediately, unable to meet even permitting or start-up costs under the Subtitle "D" case.

This example has only demonstrated the significant economic impact as a result of more stringent Federal regulations. The real question is whether more regulation is really required at all. As indicated in previous testimony, EPA's comprehensive two-year analysis stated: "Furthermore, since existing State and Federal programs already control oil and gas wastes in many waste management scenarios, EPA needs to impose only a limited number of additional controls targeted to fill the gaps in the existing programs. Subtitle 'C' with its comprehensive 'cradle to

grave" management requirement, is not well suited to this type of gap-filling regulation."<sup>1</sup>

Subtitle "D" is also not as well suited as existing State and Federal programs. E&P wastes are low in toxicity and are generated at a vast number of sites which are small in size and vary greatly in their environmental settings. They are currently regulated extensively, and for the most part effectively, at the State level by oil and gas agencies with Federal oversight under the Safe Drinking Water Act and the Clean Water Act. The EPA indicated in its report that it was willing to work with States to encourage improvement in the States' regulations and enforcement of existing programs. The DPC and its member companies have also expressed a willingness to work with EPA, IOGCC and individual States in their continuing efforts to bring about effective programs for State control of E&P wastes.

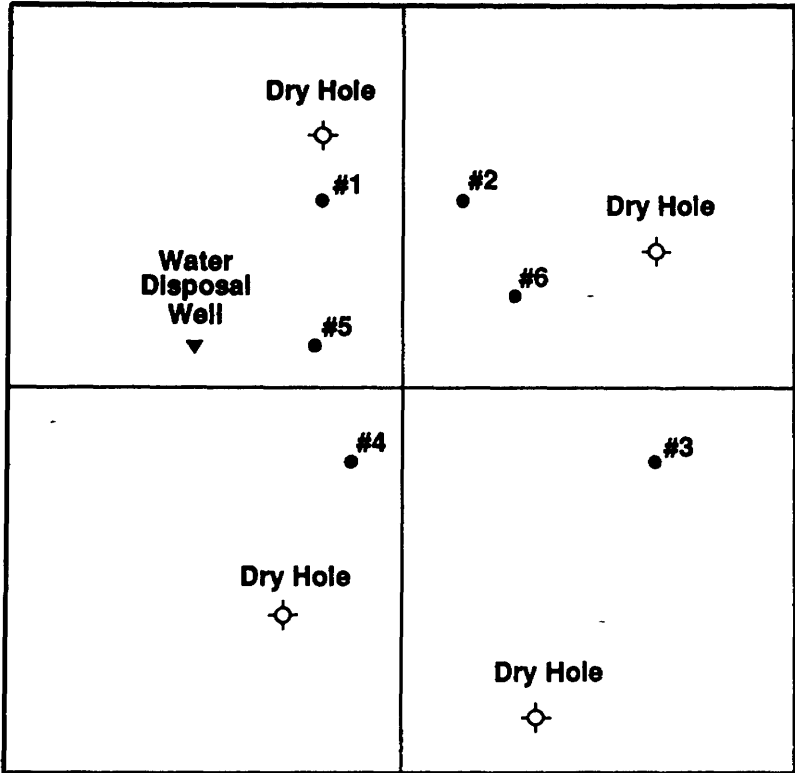
The Domestic Petroleum Council hopes that this example will be a benefit in the subcommittee's consideration.

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<sup>1</sup> EPA 1988 "Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes."

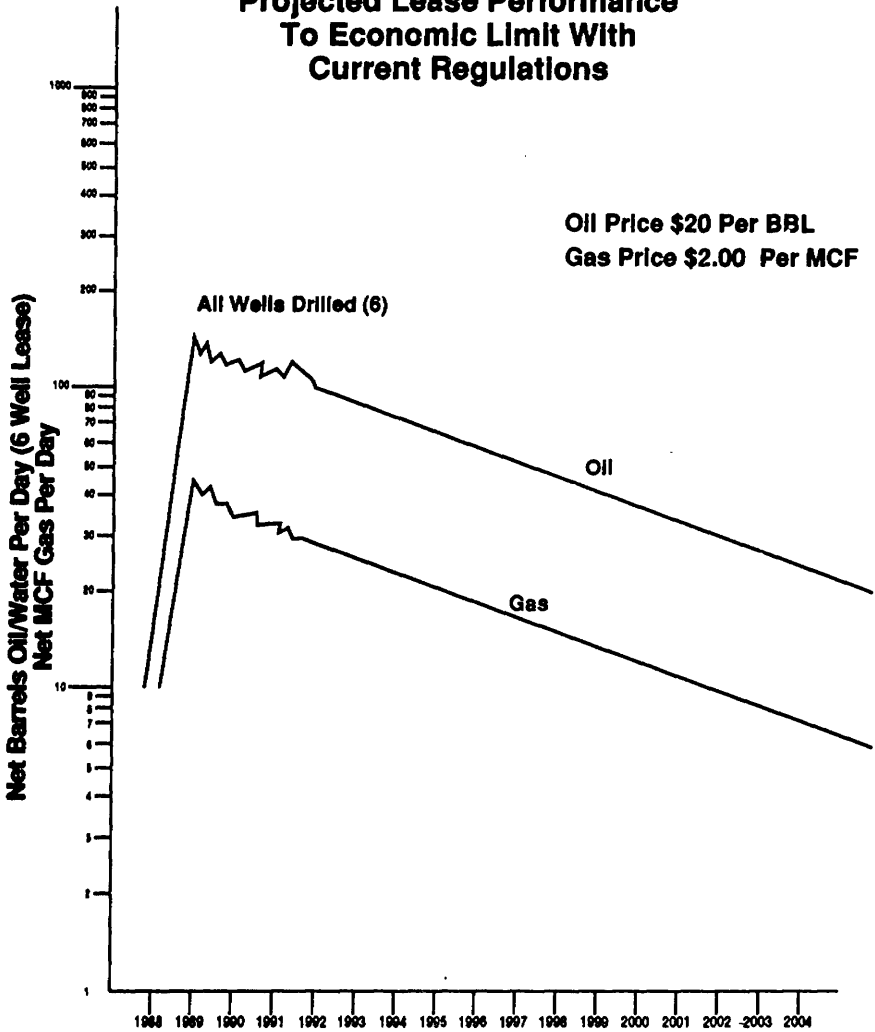
# Attachment I

## XYZ Lease Plat



## Attachment II

### Projected Lease Performance To Economic Limit With Current Regulations





# Attachment III

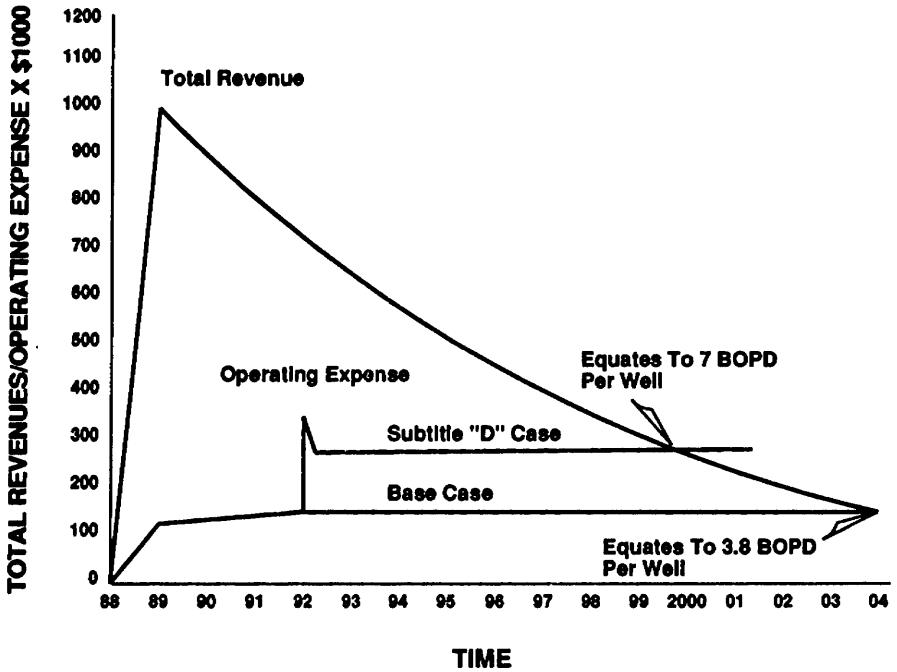
## Subtitle "D" Case

### Assumptions

	Additional Costs	
	One Time	Annual
● Added Costs		
▶ One Pit Eliminated At Production Facility	\$50,000	
▶ One Pit Eliminated At Disposal Facility	\$95,000	
▶ Retrofit One*Workover Rig With Tank. Cost Allocated Based On Available Rigs And Total Wells In Texas	\$260	
▶ Haul*Workover Waste To Offsite Facilities		\$13,000
▶ Permitting Requirements For Disposal Facilities	\$16,000	\$105,340
▶ Haul Associated Waste To Offsite Facilities		\$72
▶ Oil/Saltwater Spill Insurance		\$3,500
▶ Assume Permit Fee Of \$2 Per Ton Of Produced Water		40¢/BBL
● Assume No Corrective Actions Required For Permit Requirements		
★ A workover consists of remedial work on a producing well to enhance its ability to produce hydrocarbons		

## Attachment IV

### Projected Cash Flows With Base Case And Subtitle "D" Case \*



\* These case flows do not include the initial capital investments required for drilling, equipping, completing and plugging the oil wells and water disposal well or for facility construction costs.

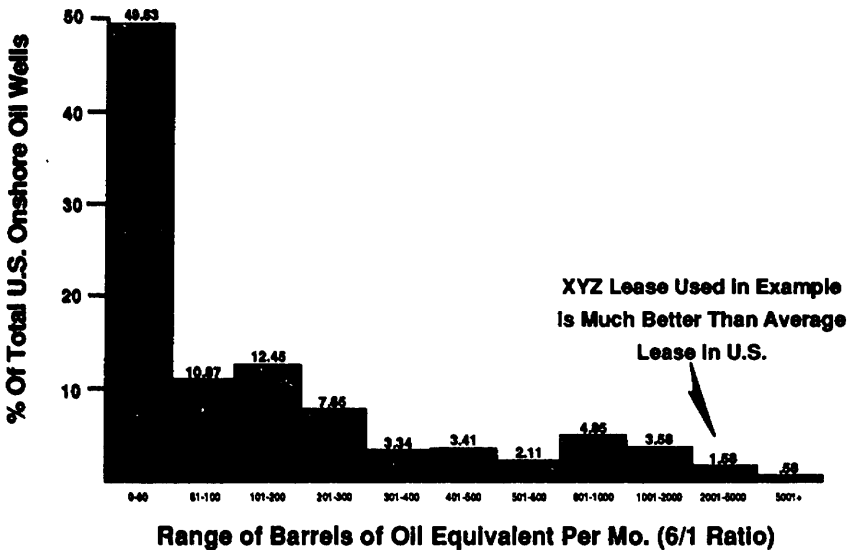
## Attachment V

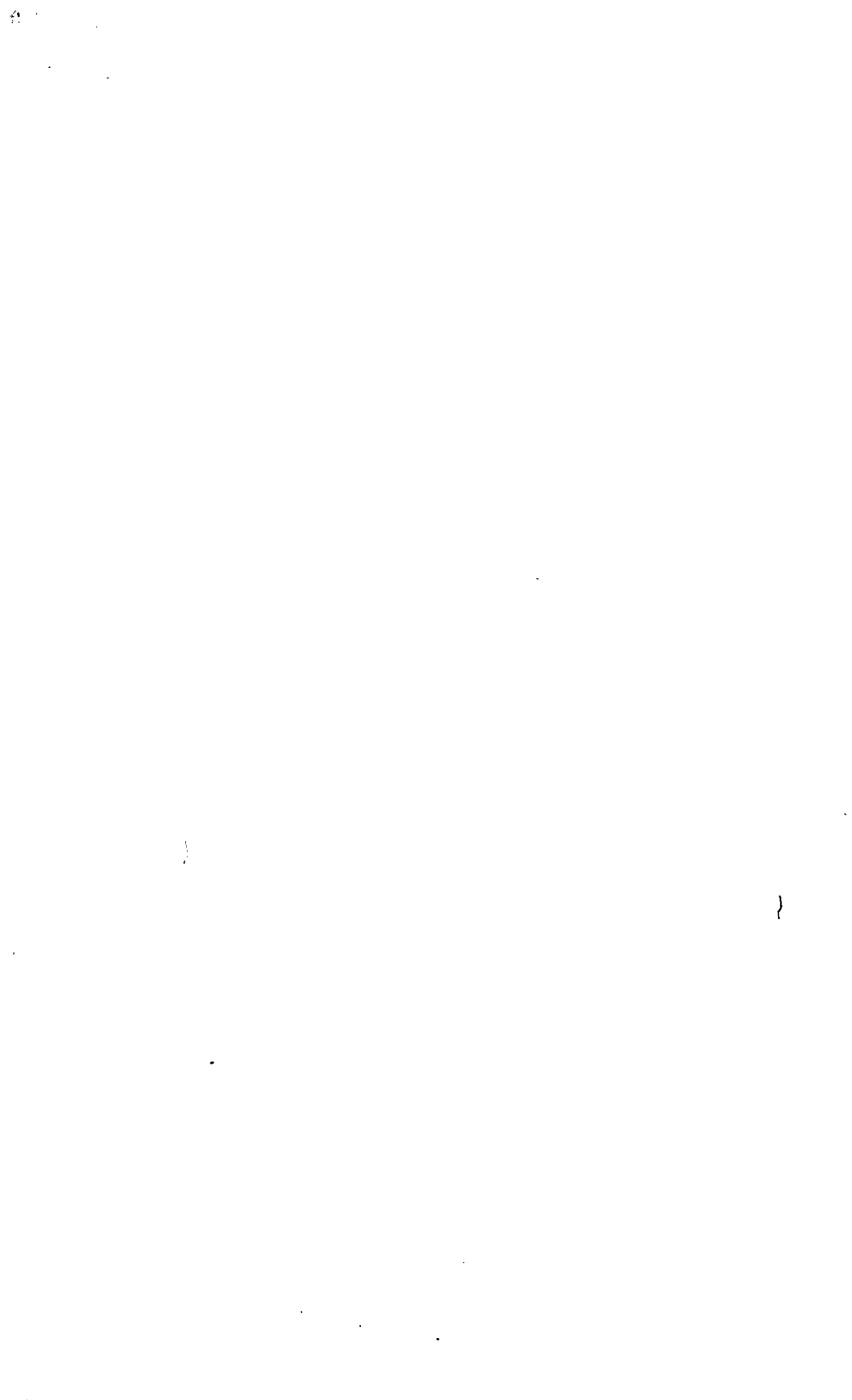
### Base Case vs. Subtitle "D" Case

	Base Case	Subtitle "D" Case	Difference
<b>Production Comparisons</b>			
Number Of Wells	6 Producers 1 Disposal	6 Producers 1 Disposal	— —
Economic Life	12 Years	8 Years	Reduced By 1/3+
Reserves Produced	270,615 BBL Oil 85,133 MCF Gas	217,952 BBL Oil 68,566 MCF Gas	Reduced By 20% Reduced By 20%
<b>Expense Comparisons</b>			
Immediate Incremental Cash Outlays	0	\$170,440	\$170,440
Additional Annual Increases	0	\$122,000	\$122,000

## Attachment VI

### U.S. Onshore Oil Well Population & Producing Rate (Gruy Engineering Corporation Report - RCRA Study 7/30/91)





# **THE RESOURCE CONSERVATION AND RECOVERY ACT AMENDMENTS OF 1991**

**THURSDAY, SEPTEMBER 12, 1991**

**U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION,  
*Washington, DC.***

## **MUNICIPAL AND TRIBAL LANDS WASTE ISSUES**

The subcommittee met, pursuant to recess, at 10:07 a.m. in room 406, Dirksen Senate Office Building, Hon. Max Baucus [chairman of the subcommittee] presiding.

Present: Senators Baucus, Chafee, Warner, and Lieberman.

### **OPENING STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA**

Senator BAUCUS. The committee will come to order.

This is one of the final hearings on RCRA reauthorization this year. Today's hearing will cover several subjects—one is treatment of municipal ash; the second, siting of landfills and incinerators essentially on Indian reservations; and also some other municipal waste issues.

I am going to insert my statement in the record because we're getting a late start this morning. I offer apologies to the witnesses and others for the delay.

We have two panels. The first scheduled panel, which is not here yet, will be Senator Daschle and Senator Inouye who have very important views and contributions on siting of landfills and incinerators on tribal lands. So we will move to the second panel. If Senator Daschle and Senator Inouye come soon, I think I might ask them to speak as soon as they can in deference to them and I ask the forbearance of the witnesses in that event.

Pending the arrival of Senators Daschle and Inouye, the panel that we will have on the issues that I just outlined are Mr. Randall Franke, County Commissioner of Marion County, Salem, OR; Allen Moore, President of National Solid Waste Management; Paul Varello, Chairman and CEO of American Ref-Fuel, Houston, TX; and Mr. Hank Cole, Director of Research Department, Clean Water Action, Washington, DC.; and Mr. Franklin Ducheneaux, a consultant on behalf of the Campo Band of Mission Indians, Washington, DC.

Let's begin with you, Mr. Franke.

I would like to remind the witnesses that your statements will automatically be included in the record, and I urge you to keep within the five-minute rule. When the red light shines, I have to ask you to begin to wind up.

[Senator Baucus' statement follows:]

**OPENING STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA**

Yesterday, we focused on mining and oil and gas wastes—the so-called special wastes. Today, we will turn to municipal waste issues.

It is true that municipal waste represents only a small fraction of our waste volumes. As we heard yesterday, almost 5 billion tons of mining and oil and gas wastes are generated each year.

Municipal waste volumes pales by comparison. Collectively, we throw out only about 180 million tons of trash each year. But the problems from municipal waste is just as real. And the size of the problem is growing at a record pace.

Thirty years ago, we threw out about half as much trash as today. Ten years from now, if present trends continue, we will toss out over 200 million tons—10 percent more than today.

To make matters worse, as our waste heap continues to grow, we are running out of safe and secure places in which to manage this trash.

In 1960 there were some 30,000 landfills. Now there are about 6,000, and many more will close in the next few years. Unfortunately, old landfills are not being replaced with new ones, often because of public opposition to siting.

To overcome this opposition, some waste management companies are aggressively looking to site landfills and incinerators on Indian reservations. By siting on Indian lands, waste companies can negotiate siting proposals and requirements with the tribe. And they can avoid the long regulatory battles with State regulators and the public which often accompany siting proposals.

Then there is the problem that some landfills are releasing mercury, cadmium, lead, ammonia, and other dangerous substances into the environment. In fact, over 180 municipal landfills are so dangerous that they are now Superfund sites. And another 163 municipal landfills with health and environmental hazards have been identified by EPA.

The solution to this problem includes three distinct but related parts, which are all addressed in S. 976, legislation I introduced along with Senators Chafee and Burdick to reauthorize RCRA.

First, we must reduce the amount of waste we generate, before it becomes a problem. Next, we must recycle what can be recycled.

Finally, even if we maximize our pollution prevention and recycling efforts, there will always be waste. So the third part of an effective solid waste policy is better waste management.

Like it or not, landfills and incinerators are an important part of our nation's waste management system. Therefore, we must ensure that these facilities are designed with the best environmental controls.

This brings us to the topic of today's hearing. How can we ensure that the waste that we generate is safely managed?

The legislation that I have introduced, S. 976, includes Federal criteria for managing municipal waste and municipal incinerator ash. And it includes mandatory planning requirements to ensure that enough safe disposal sites will be available to handle the waste generated in each State. I will be interested in hearing from our witnesses their views on this proposal.

I am also interested in hearing from the witnesses their thoughts on EPA's new municipal solid waste landfill rule, promulgated yesterday.

I understand that EPA's rule may include some of the same requirements as S. 976. I am interested in whether additional legislation such as the provisions in S. 976 is still necessary.

I thank our witnesses from coming this morning and sharing their expertise with this committee. I look forward to hearing their views.

**STATEMENT OF RANDALL FRANKE, COUNTY COMMISSIONER,  
MARION COUNTY, SALEM, OREGON**

Mr. FRANKE. Thank you, Mr. Chairman, members of the subcommittee. I am Randall Franke, County Commission for Marion

County, Oregon, and third vice president of the National Association of Counties. I am here today to testify not only on behalf of NACO, but also in my capacity as co-chair of the Local Government Solid Waste Action Coalition, SWAC, which includes in addition to NACO the National League of Cities and the Solid Waste Association of North America.

I would like to take this opportunity first to thank you and your colleagues on the Environmental Protection Subcommittee for beginning to tackle many of the major problems associated with the management of solid waste in our country today. My testimony will focus on seven areas that we consider particularly important to local government contained in RCRA. I would like to request that the attachments to my written statement also be incorporated into the hearing record.

Senator BAUCUS. So ordered.

Mr. FRANKE. First, as a local elected official in a community that exercises the waste-to-energy option, I wish to commend the committee for rejecting the simple and politically expedient option of imposing a moratorium or an outright ban on the use of this method as a solid waste management tool. Local governments need as many options as they can get today not fewer of them.

Last year in your deliberations on the Clean Air Act, Congress reached consensus on standards for air emissions from waste energy facilities. It remains essential for you to complete the job and develop standards for ash disposal facilities as well. Despite the positive benefits, controversy regarding the safe disposal of ash has damped the ability of many local governments to include waste energy facilities as part of their integrated solid waste management programs.

First, we applaud the provisions in the legislation that designate ash as a special subtitle D waste. We believe that the monofill approach to ash disposal is an appropriate management strategy. But we would like to suggest that the S. 976 requirement which mandates both a composite liner and an additional flexible membrane liner is inappropriate to be included in the legislation for several reasons. We're also concerned about the proposed requirement for the treatment of fly ash prior to the disposal in a monofill. In addition, we believe that the requirements for testing ash prior to disposal in a sanitary landfill in addition to requiring the fly ash to be treated before it is combined with bottom ash is a costly overkill not substantiated by current testing data in the field. We would also like to encourage your legislation to focus on the potential beneficial use of ash.

Second, we sincerely applaud and commend you for the recycling provisions in S. 976. You have taken a number of bold initiatives and recognized that without Federal intervention in market creations the potential for warehouses full of unrecycled "recyclables" is very real. We fully support your minimum content standards. We appreciate that your recycling requirements are goals not mandates. And our coalition also supports mandatory deposit legislation on such items as beverage containers, batteries, and tires.

Third, a major problem in municipal solid waste management is the absence of uniform definitions and sampling and reporting methodologies. As waste reduction, recycling, and utilization goals



are established, the lack of uniform measurement and reporting methods will make it impossible to determine compliance or goal achievement. We would ask that the legislation require EPA to deal with these deficiencies.

Fourth, waste reduction initiatives are important steps that the Federal Government can take in easing the crisis in solid waste disposal. From the local perspective, we believe a Federal initiative establishing a materials use policy is necessary. Such a policy would include packaging standards and a national packaging reduction goal, limits on the development of new disposable products, as well as reductions in toxic constituents in products that ultimately find their way into the waste stream; incentives for bulk packaging efficiencies as a consideration, along with recycled content, in Government procurement policies.

Fifth, we commend the committee for recognizing the importance of sanitary landfills as part of integrated solid waste management today. As with some of our concerns in the ash disposal facilities, here, too, we are concerned though by including specific design requirements in the legislation. In this particular instance, the language not only specifies liner thickness, but also specific liner materials. To write engineering specifications into the legislation is, we believe, inappropriate.

Sixth, section 402 of S. 976 addresses the development of State and regional solid waste plans. We believe the intent of this section is valid, but we urge the committee to consider expanding the requirements to include integrated solid waste management plans for all three levels of Government. Local Government can and will plan for capacity from combustion and use of landfills. But the States and Federal Government must address waste reduction and recycling.

Seventh, and finally, training, continuing education, basic and applied research is needed to provide the personnel, science, and technology to carry out the purposes of S. 976, and we would urge the committee to include a national commitment to provide for those needs in the RCRA reauthorization.

Thank you, Mr. Chairman and members of the committee, for your attention and the opportunity to testify today on this very important issue.

Senator BAUCUS. Thank you, Mr. Franke, very much.

Mr. Moore, you're next.

#### **STATEMENT OF ALLEN MOORE, PRESIDENT, NATIONAL SOLID WASTES MANAGEMENT ASSOCIATION**

Mr. MOORE. Thank you, Mr. Chairman. As you know, my association is the trade association of the private waste services industry. Last year before this committee, I talked about the garbage time bomb; that is the steady decline of municipal waste disposal capacity in the U.S. Well, I think this turns out to be an important week in de-diffusing that bomb. Yesterday was the long-awaited "D Day"; the day that the subtitle D rule was signed. More on that in a moment.

This hearing is also an important event. It means that RCRA moves another step forward. I certainly commend you, Mr. Chair-

man and Senator Chafee, for your leadership on the issue. We in the industry are encouraged by the joint effort to establish a Federal framework to guide the management of solid waste in the U.S. into the next century. We fully support the enactment of clear Federal policies to assure, first of all, that all waste is managed in a manner which protects human health and the environment; and second, that communities across the country have the broadest range of options from which to create comprehensive integrated waste management systems.

Let me turn briefly to the bill and mention a few areas that we believe could be improved.

First of all on State planning. This is critical. I know that some States are resisting these provisions, but we urge you to hang tough. State plans combined with Federal minimum standards are the key to assuring needed new capacity. Federal review and approval of those plans is essential. We do believe that the process laid out may be overly ambitious and, therefore, somewhat more expensive and time consuming than is absolutely necessary to achieve the objective. We have some concerns about the timing requirements that risk dragging out the process-but maybe we can explore those independently with the staff.

The EPA, to do this right, is going to need additional resources. Therefore, I urge you not to grant new responsibilities to an already overburden agency unless you're prepared to give it the resources needed to carry out those responsibilities.

On the subject of permitting, we're generally supportive of the bill's provisions, particularly those which make explicit EPA's authority, on an exception basis, both to issue permits and to assure their compliance. We suggest, however, that certain requirements be reexamined. For example, we believe that it is bad public policy to limit the term of permits in Federal law. Permits should be based on the lifetime capacity of the facility being proposed, and are properly the purview of the State issuing authority. For example, a landfill that has a planned capacity of 20 years should logically be permitted for 20 years. The 5-year permits in the bill are inconsistent with the time frame of the planning provisions and are well short of the requirements of the financial community which needs assurance of a reasonable return on investment over the life of such projects.

Second, a permit fee doesn't need to be authorized by Federal law since States already have the authority to establish user fees and, in any case, the proposed fee strikes us as higher than necessary. Small communities, where disposal fees often range from a few dollars up to \$15 per ton, may become the unintended victims of a sincere effort to create resources at the State level. That additional resources may be required by a State to manage solid waste disposal properly is not an issue, nor do we oppose user fees based on the cost of and dedicated to the services provided. We do question whether the fee and its escalator provisions proposed in the bill are not simply a national tax on the generation of solid waste, and whether such a scheme is the most equitable way to finance State oversight of the disposal system. I would point out that a \$2 per ton fee will cost a community of 25,000 people about \$40,000 a year.

A word on the D rule. Since this is only the first day after what I call "D Day," we still aren't sure what we have from EPA; the rule is not in our hands yet but we think we like it. We have long supported environmentally sound standards and we've been very active, as you know, in recent months at the White House and OMB trying to free the D rule. Hopefully, it will make moot the need for your language and your bill can then be used to correct any deficiencies that we all may find in the rule.

Mr. Varello, one of our members, is going to talk at some length about the bill's ash management provisions, and, most particularly, the latest scientific findings on ash management. I urge you to listen to that testimony closely. We know that the D rule alone will cost over \$330 million a year. We don't believe there is any reason to add even more to the Nation's bill when the added costs are not justified by the scientific evidence. That evidence is based in large part on European experience where the waste energy option plays such a large role in comparison to the U.S.

Mandates to buy more protection than we need won't by themselves stop new plants or new facilities from being built, but they will divert scarce public resources away from other competing social needs.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Mr. Moore.

Mr. Varello, that's your introduction.

**STATEMENT OF PAUL VARELLO, CHAIRMAN AND CEO, AMERICAN REF-FUEL, HOUSTON, TEXAS, AND DEPUTY CHAIR, THE INSTITUTE OF RESOURCE RECOVERY**

Mr. VARELLO. Thank you, Mr. Chairman. I am Paul Varello, the Chairman and Chief Executive Officer of American Ref-Fuel, a major waste to energy company. I am testifying today as Deputy Chairman of the Institute of Resource Recovery, the trade association of private firms that design, build, and operate waste to energy facilities.

Mr. Chairman, I would like to take this opportunity to emphasize my key points regarding S. 976.

First, waste-to-energy is an essential part of an integrated solution to our growing problem of municipal solid waste disposal. The fundamental policies of S. 976 regarding ash management and disposal provide a basis for this to occur.

Second, substantial recent scientific data demonstrate that ash from municipal waste combustion is not hazardous. It can be safely disposed of in modern facilities and presents no significant risk to human health and the environment. My written testimony contains several specific suggestions to bring the technical provisions of S. 976 into accord with the science.

Let me first talk to you about the nature of ash—replacing science fiction with science, if you will.

My written testimony references extensive studies and test results from the past several years. Much of this work was co-sponsored by either the EPA or the California Department of Health Services. The research focused on the character of ash and its be-

havior when disposed of in actual landfills. The results are absolutely clear. To quote one of the EPA studies,

The data indicate that although the leachates are not used for drinking purposes, they are close to being acceptable for drinking water use as far as the metals are concerned.

The study found that the only substances in leachates which would exceed safe drinking water standards were salts. Leachates were essentially seawater. The California study was equally clear in concluding that

The ash possesses intrinsic physical and chemical properties rendering it insignificant as a hazard to human health, safety, livestock, and wildlife.

What's more, these studies were done in actual landfills.

If there is anything I want this committee to understand, it is the distinction between lab tests on ash and field tests. Years ago there were no field data so lab tests were used. Lab tests were supposed to predict what would happen in the ground. Now we have field data. However, we can see that leachate from ash is not a problem.

Mr. Chairman, I spent a lot of time in South Carolina and an analogy here involves the Michelin Tire people, who for years tested new tire designs in a lab. Later on they discovered that putting those tires on cars and trucks, loading them up under real conditions, and putting them on the road proved to be a lot more reliable way of testing the life and wear of those tires. The same parallel applies here to ash. The actual field conditions are a lot more reliable and predictable than anything we can scale up in the lab.

To my second point, waste-to-energy can and should play an important part in solving the waste disposal problems of communities across the country. Waste-to-energy already serves millions of Americans and substantially prolongs the life of existing landfills. This year, it will produce the energy equivalent of over 45 million barrels of oil, about the same amount the U.S. imported from Kuwait before the war. In short, waste-to-energy provides an essential response to our Nation's critical needs for safe waste solutions and increased energy demand while reducing our dependence on imported oil.

Opponents of waste-to-energy would like to see a moratorium on incinerators. They don't want incinerators to impede recycling. Frankly, neither do we. Where we part company is in our need to be responsive to people who have to take care of garbage for a living—city managers, county sanitation commissioners, and others. They have to make realistic planning assumptions and they know, like we do, that there is no moratorium on garbage. The stuff keeps piling up.

In conclusion the IRR generally supports the ash management provisions of S. 976. We believe that this legislation can be very effective in solving the growing problems of waste disposal in our Nation. It has been said that "everybody wants their garbage picked up but nobody wants it put down." Waste-to-energy helps put it down in a safe, clean, and productive manner.

We appreciate your attention to our views, Mr. Chairman, and we look forward to any questions.

Thank you.

Senator BAUCUS. Thank you very much, sir.

Next, Mr. Cole.

**STATEMENT OF HENRY S. COLE, DIRECTOR, SCIENCE AND POLICY RESEARCH DEPARTMENT, CLEAN WATER ACTION, WASHINGTON, DC, ACCOMPANIED BY ROBERT COLLINS, DIRECTOR, SOLID WASTE PROGRAMS, CLEAN WATER ACTION**

Mr. COLE Thank you, Mr. Chairman. My name is Doctor Henry S. Cole. I am the Science and Policy Director for Clean Water Action. With me today is Robert Collins, who heads our Solid Waste Program.

Clean Water Action is a national environmental organization with nearly a million members in 15 States. We greatly appreciate the opportunity to address the committee on the critical issue of municipal waste.

We are convinced that the public supports an environmentally sound waste management system based on reduction, reuse, and recycling. And we know, Senators, that the members of this committee share the same basic desire. The fundamental question is how do we get there.

Our written testimony provides a number of recommendations that we believe are needed to get there. The most important are:

1. A moratorium on the construction of new municipal waste incinerators.
2. The requirement that municipal incinerator ash be managed as a hazardous waste under subtitle C of RCRA, using the most protective containment systems available—that is double-lined monofills with leak detection.

Make no mistake about it, environmental organizations in Washington and around this country are unified on these points.

Let me turn now to ash management.

Senator CHAFEE. Now what are the two points again? A moratorium on construction of municipal waste incinerators and incinerator ash treated as hazardous waste under subtitle C.

Mr. COLE That's correct, with the most protective containment systems—that's double-lined monofills.

We have a number of other recommendations, and there are a number of very good items in S. 976 which will promote markets and procurement, et cetera. We're supportive of those.

As far as ash management, existing incinerators currently produce about 5 million tons of ash each year. It is loaded with lead, cadmium, chromium, and other highly toxic metals which do not break down over time. Forever is a long period of time to contain wastes.

The volume of ash is expected to grow as new burners come on line. We appreciate that the committee recognizes the urgent need to establish national requirements. At present, ash is being regulated differently in each State. Unfortunately, much of it is being disposed in an unsafe manner—together with garbage in unlined landfills and worse. For example, several years ago ash from Washington, D.C.'s incinerator was dumped on the grounds of the St. Elizabeth Hospital right next to the Anacostia River.

There is also a trend to incorporate ash in road aggregate and other building materials. These ash utilization projects are proceeding without any standards or guidance from the Federal Government. Let's stop and think about this. Roadways are pulverized by traffic and weather. Ash-laden materials are ground into dust. This means that urban street dust and drainage waters are likely to be enriched with lead and other heavy metals. We have removed lead from gasoline and paints—at considerable expense—because it impairs the mental development of children even at low exposures. Why would we want to add lead to our roads and sidewalks?

Ash should be managed only under the most protective regime under subtitle C of RCRA. Let's call ash what it is—a hazardous waste that contains high concentrations of persistent toxic substances, substances that can leach into drinking water, that can be inhaled, ingested, and can build up in our food chains. Subtitle C inclusion would ensure that all ash disposed would be in state-of-the-art facilities with double liners and leak detection, the ash would be manifested so we'll know exactly where it is going, and it will also ensure that landfills are closed with composite liners. In addition, ash should be disposed of solely in monofills since mingling it with garbage greatly increases the potential for leaching.

Recognizing that even the best containment systems will inevitably fail, we must minimize the production of incinerator ash to the maximum extent practicable. Unfortunately, S. 976 sets up a system of ash management that is far less protective than the one we recommend. There are numerous disposal options that enable operators to meet minimum requirements. The problem is that none of them require the most protective approach—a monofill that has two liners and leak detection. If the ash tests okay, it can go into a single-lined landfill; if you monofill, you don't have to have leak detection; and so forth. There are numerous variances, delays, and extensions. For two-and-a-half years after enactment ash may be disposed of in unlined landfills, et cetera.

Let me finish by saying that while incinerators may accomplish one purpose—a reduction in the volume of waste—they do so at a staggering environmental cost; a cost not only for this generation, but for future generations.

I don't have time to talk about the mercury problem. Municipal incinerators are a major source of atmospheric mercury which is contaminating the fish of this country.

And finally, incinerators represent, despite what has been said here today, a major barrier to waste reduction, recycling, and composting. Incinerators compete for the materials that make recycling and composting most viable—paper, cardboard, yard waste, et cetera. And incinerators compete for scarce capital. The conflict between incineration and recycling is growing more evident every day. The war for trash is on. All you have to do is read the newspapers and you'll find examples of incinerators that don't have enough trash; of communities that are being forced to decide whether to go forward with recycling and composting programs—

Senator BAUCUS. I'm going to have to ask you to summarize your testimony, Mr. Cole, as best you can.

Mr. COLE Okay. In short, we feel that a provision like that in H.R. 3253, which is a moratorium until the year 2000, introduced

by Congressman Peter Kostmayer and co-signed by 24 members of the House thus far, is necessary. This has been backed by 500 State and local groups and more than a dozen national organizations, including Sierra Club, the Environmental Defense Fund, and NRDC.

Thank you very much.

Senator BAUCUS. Thank you.

Our final witness is Mr. Ducheneaux.

**STATEMENT OF FRANKLIN DUCHENEAUX, DUCHENEAUX, GERARD AND ASSOCIATES, WASHINGTON, DC, ON BEHALF OF THE CAMPO BAND OF MISSION INDIANS**

Mr. DUCHENEAUX. Thank you, Mr. Chairman. My name is Frank Ducheneaux and I am a member of the consulting firm of Ducheneaux, Gerard and Associates. Our firm has been retained by the Camp Band of Mission Indians in southern California relative to a proposed siting of a waste disposal facility on their Reservation, and I present testimony on their behalf. Mr. Ralph Goff, Chairman of the Band has asked us to extend appreciation for the invitation here.

In the testimony we submitted for the record and the short oral summary, we hope to do about three things. I know, Mr. Chairman, that a representative of the Band met with you on the project, but we hope for the record to give the committee a little idea of what the tribe is and the project; help to dispel the erroneous idea that there is some kind of crisis existing relating to the rampant siting of waste disposal sites on Indian lands; and also to make a few recommendations to the committee relative to assisting those few tribes that might see that as an alternative in protecting themselves and their communities in an environmentally safe way.

The Campo Band is a small tribe, about 500 members, on a Reservation of about 15,000 acres. The Reservation is very barren, high desert, arid, unproductive—

Senator BAUCUS. Where is it?

Mr. DUCHENEAUX. Southern California. The southern boundary is about a mile from the Mexican border. The lands are usable for marginal grazing purposes. Like reservations around the country, Mr. Chairman, including your State, there is high unemployment on the Reservation of employables—probably over 50 percent—and a lot of poverty and all the ills that go with that.

In about the mid-1980s, the County of San Diego, recognizing that it was running out of landfill sites, began to look around the county at potential sites for new landfills. They, in fact, identified the sites on the Campo Reservation as potential sites. Initially, the Tribe and its members reacted like a lot of communities do—no way were they going to site a facility on their Reservation.

The General Counsel of the Tribe, which is all of the adult members of the Tribe, directed the Chairman to begin to look at means of bringing economic development to the Reservation to deal with the poverty and unemployment. They examined many, many alternatives, including gambling. The site is so remote, so barren, so unproductive that there simply was not realistic opportunity for economic development. They then seized upon the idea of a waste disposal site and pursued that. They pursued it, Mr. Chairman. There

was no company that came to them, overreached them, imposed upon them, took advantage of them. The Tribe initiated it; they pursued the process.

My statement, Mr. Chairman, is very clear that the Tribe was in command throughout this process. They interviewed a number of waste disposal sites around the country and they finally selected the Mid-American Waste Disposal Site out of Ohio. I won't go through the process that the Tribe went through, Mr. Chairman. Suffice it to say that they were very deliberate, very careful, they attempted to include the State, the local community, EPA, the Bureau of Indian Affairs; in many cases, asked for the assistance of those entities and individuals in preparing this. I think they've done a very good job.

We are here to recommend that this kind of process is something that other tribes that might be thinking about this could go through. The benefits that this project could bring to the Tribe are fairly obvious. The Tribe has negotiated a very favorable agreement with Mid-America and with the recycling company that they have entered into agreement with. The funds and revenue that will come to the Tribe will abolish unemployment on the Reservation for those members who are willing to work. It will provide employment for the surrounding community. Half of the revenue will be reinvested by the Tribe to develop other economic opportunities; half of the revenue will be used for a strong, stringent, enforcement capability that the Tribe has developed and will apply to not only the waste disposal facility here, but all other environmental activities on the Reservation. As I said, there will be full employment for the Reservation, and hopefully the Tribe could use this to achieve that long-sought goal of Tribal economic self-sufficiency.

Mr. Chairman, there are applicable laws. There seems to be a feeling that this is a rampant, unregulated activity which tribes are proposing. There is, first of all, tribal law. I would hope that this committee and other committees of Congress would give Indian Tribes, as Governments, a kind of credibility and credence that they deserve. They can regulate. They are as concerned about their environment as any community, perhaps more. They have their own regulations. The Campo's are more stringent than the California regulations, upon which it is based. There is Federal law which applies. Where a Tribe is going to lease its lands for any kind of activity, including this, they have to go through an EIS because it is a major Federal action. The EIS, if it is properly followed, will explicate for the tribal members in the community what the environmental impact is. But if the environmental impact of this proposal is unacceptable to anyone, it will be unacceptable to the tribal members and the proposal will come to a halt. In addition, the Secretary has to approve these leases, and he should take into consideration, and does take into consideration, these kinds of environmental impacts that come out of the EIS. In addition, Mr. Chairman, as you know, Title D of RCRA does apply to Tribes on the solid waste nonhazardous disposal sites through the citizen suits. The recent Blue Lakes case in Federal court made clear that Tribes are subject to citizen suits with respect to violations of the open dump provisions in Title D.



Mr. Chairman, our statement contains a number of recommendations, both to the administration and the committee, on things that could happen which would help Tribes, those few Tribes that are interested in this, to protect themselves, protect the surrounding communities that are concerned, and yet exercise their Tribal sovereignty and pursue economic development projects.

In addition, Mr. Chairman, the Tribal attorney has or will submit specific recommendations to the committee with respect to amendments to RCRA that the Tribes can support.

Thank you, sir.

Senator BAUCUS. Thank you very much, sir.

Mr. Cole, I would like to explore with you a little bit your reasons for suggesting a moratorium on incinerators until at least the year 2000, as well as your other major recommendation that all waste incinerators be treated as subtitle C.

First point first. What is your bottom line basic argument? Why should there be a moratorium on incinerators? What is the human health hazard, what is the environmental hazard that you see that warrants a moratorium on incinerators until at least the year 2000?

Mr. COLE First of all, we think that it is an inappropriate management tool for waste. The reasons are simple. If you look at more than 80 percent of the waste stream, you will find that it is either recyclable or noncombustible. You can add a little bit more to look at those wastes which have toxics in them which can lead to toxic emissions. So, if you were really trying to recycle, and if it is not appropriate to put noncombustible things in incinerators, why would we spend hundreds of millions of dollars on this technology?

That's not all of what's wrong with it.

Senator BAUCUS. So part of it is it takes away incentive to recycle; that's part of it?

Mr. COLE Yes. It competes for the same basic materials and a community cannot do both.

Senator BAUCUS. Right. I understand that. Could you also address the adverse consequences to human health and environment.

Mr. COLE Certainly. There are a number of places I could start. One that I didn't get into very much is the mercury problem. We have a mercury crisis in this country. I would point your attention to a feature article in "The New York Times" about three weeks ago where Keith Schneider painted the dimensions of this alarming picture in which we have more than 20 States that have issued fish consumption advisories for mercury. Half of the fish consumption advisories in this country are from mercury. We have hundreds of chemicals, but mercury—

Senator BAUCUS. Is that a consequence of incineration?

Mr. COLE Absolutely. Incineration is one of the major sources of atmospheric mercury.

Senator BAUCUS. What documentation do you have that the mercury that you're referring to comes from incineration? I'm just curious, do you have evidence, documentation authority for that?

Mr. COLE Last year we published a research document—in fact, others have published documents as well—and we estimated the annual emission rate from incinerators. To get those emission rates, we used EPA's data. In fact, EPA commented on our report

and they said it was accurate in our estimation of emissions. But the point is that there is a lot of mercury in the waste stream and about half of this mercury—because mercury volatilizes as a metal into the air, it is very difficult and expensive to control—and about half to seventy percent is escaping into the atmosphere. The point is this, and what I am going to say is very significant, there is no metal or no substance that biomagnifies to the point that mercury does. If you have a few parts per trillion—

Senator BAUCUS. Right. So you have identified mercury. Now let me ask you about mercury. I am asking you whether in your view—I think I know the answer; I'd like to know the reasons—the provisions of the Clean Air Act with respect to numerical emission limitations sufficiently controls mercury and other hazardous emissions.

Mr. COLE Senator, I believe, correct me if I am wrong, that the Act states that EPA "shall develop a numerical emission standard for mercury".

Senator BAUCUS. That's correct.

Mr. COLE The reason why we're not very confident in that is because EPA has had that opportunity thus far and their approach to mercury has been to lump it in with particulates. The particular control requirements that they would impose as part of their regulation is dry scrubbers and baghouse filters. That is not an effective technology for removing mercury. Nor were there any provisions in what they've done so far to require mandatory separation of mercury, that would get it out of the waste stream, which we think is necessary. However, we don't think, given the wide use of mercury in so many products—even if you recovered all the batteries, if that were possible—that you could keep most of it out of the waste stream. A small amount of mercury winding up in a lake is significant given the millionfold to hundred thousandfold biomagnification.

Senator BAUCUS. Would a moratorium be necessary though if the provisions of the Clean Air Act sufficiently controlled emissions of mercury? If the provisions of the Clean Air Act were modified—

Mr. COLE I don't want to—

Senator BAUCUS. Let me finish my point, please. When I finish my point, you can better answer. Essentially, if the provisions of the Clean Air Act are modified, and if the EPA were to address, in its regulations, numerical limitations on the problems you mentioned with respect to the control of mercury, would there then necessarily have to be a moratorium on incineration? I mean, if the Clean Air Act is properly written, implemented, and enforced, wouldn't that be sufficient?

Mr. COLE I don't want to imply, at all, that mercury is the only reason why—

Senator BAUCUS. Neither is mercury the only hazardous waste which is controlled under the new Clean Air Act emissions.

Mr. COLE We're not confident that it will solve the problem.

Senator BAUCUS. Okay. My time is up. We'll get back to this later.

Senator it is your call.

Senator CHAFFEE. Thank you, Mr. Chairman.

I would like to pursue what the Chairman was discussing. It so happens that this Saturday a group from the Clean Water Coalition is coming to see me on this particular subject. I would like to open it to Mr. Franke, for example, who is a county administrator, what the proposal is—and this is a proposal that's being pushed with considerable vigor, as you heard—a moratorium on the further construction of incinerators to the year 2000, and the treatment of the ash as a hazardous waste, which is, if I'm correct, would require disposal costs of about \$900 a ton of the ash. Somebody said, maybe it was Mr. Moore, that—and quite accurately, in my judgment—everybody wants to see his garbage picked up and nobody wants to see garbage put down. You're out on the firing line; you've got to get rid of this stuff and, if you don't, I presume you'd be removed from office—which is a horrifying prospect for an elected official.

[Laughter.]

Mr. FRANKE. I think so.

Senator CHAFEE. Would you comment on the point Mr. Cole made?

Mr. FRANKE. I would be pleased to, Senator. The National Association of Counties, National League of Cities, and the Solid Waste Coalition, that I am representing today, those organizations plus the Solid Waste Association of North America, are equally adamant and opposed to any moratorium on incinerators or the treatment of ash as a hazardous waste.

As you indicated, we represent elected officials and staff out there on the firing line that absolutely have to manage this material and there is no moratorium on the production of this material. We are just as concerned as Congress and the Senate members of this committee to do that in a safe manner that protects the public health, safety, and the environment. We believe your bill goes a long way in doing that. There are, as I indicated, some relatively minor, in perspective, changes we'd like to see made, but we think you've gone a long way.

We need more options not less. If you listen to a lot of the assertions and allegations, they are very emotionally made, they are very emotionally charged. We, too, are concerned about those issues but we believe, and as part of my record I have submitted the third year testing of our ash monofill and leachate and surrounding area in Marion County, Oregon—

Senator CHAFEE. Mr. Franke, my time is very brief here, so I want you to move right along because I've got a follow-up question I want to ask.

Mr. FRANKE. Okay. I would just simply ask the committee to review not just Marion County's data in the field of what is actually going on, but review all the data available and base your standards on the data that shows what is happening in the field and not on emotionalism.

Senator CHAFEE. Here is a question I would like to ask Mr. Moore, and that is—and I think there is considerable justification for this point that Mr. Cole and his associates made—namely, that you build an incinerator and it has an insatiable appetite and it drives out the desire or the urge for recycling. Or, put it the other

way around. If you don't have the incinerator, then there is a very high urge to recycle.

The other point Mr. Cole makes is not only recycling, but not produce the stuff to start with, which is something that appeals deeply to this committee.

Now, what would you say to that?

Mr. MOORE. Well, with regard to reducing the amount of waste generated, that has a lot of appeal to just about everybody as we see the costs skyrocket.

On the question of the compatibility with recycling, some of the existing plants that we have out there today were built to handle the waste stream before there was as much attention—legitimate, reasonable attention—toward recycling, and that has created some temporary disruptions. The answer with existing facilities is to expand the area that is served by a given facility. If you used to handle 100 percent of the waste stream and now you are going to handle 80 percent or 70 percent, you can widen your area.

Senator CHAFEE. I'm not sure that works. I've read these articles about Connecticut that have these—and I'm giving you kind of apocryphal information here—but they have these incinerators and the incinerators are going broke because they are not getting the supplies so thus they are reaching out but it just isn't working out correctly.

Mr. MOORE. There is in a few instances some temporary dislocation. I think the answer is—and we are seeing this pattern occur—that you begin to serve a wider stream.

But let me talk about new facilities that are coming on line today with a different mindset about the level of recycling that is appropriate. I will remind you first of all that much of what you recycle, much of what you remove isn't combustible anyway, so when you remove it, you improve the Btu content of the fuel. Second, you build the plant as part of an integrated scheme that reflects your ability to recycle. You can build a plant of any size.

The problem with a moratorium—and Mr. Franke I think said it very well. You talked about whether he might be thrown out if he doesn't pick the garbage up—what many politicians are finding is they are being thrown out even if they do make a hard decision on building a new facility. It is no wonder they are so hesitant to decide. The last thing we should do it take options away, especially safe options. When Senator Baucus was asking his questions, those are all the right questions. Read the reports, learn what the studies show and I think you will be surprised and pleased with the results. To impose a moratorium is to send a message from Government to local waste planning officials that, in my judgement, is a modern day version of "Let them eat cake."

Senator CHAFEE. Thank you, Mr. Chairman. This is a big issue. Mr. Cole represents a substantial number of citizens across the country—certainly they are active in my State—and they want answers. They believe very strongly, and I'm very sympathetic to them, that we've got to do more recycling and, again—the point that no one will argue with—don't produce the stuff to start with if possible. I'm not sure we're wrestling with that second point very successfully; how to cut down the waste stream in the beginning. That may be something beyond our reach, I don't know.

Mr. Cole, why do you feel that it is antithetical to be for recycling and be for incineration at the same time? Why are they in contravention to each other?

Mr. COLE As I've said before, the two compete for many of the same materials.

Senator CHAFEE. Not according to Mr. Moore. A tin can, a beer can is a recyclable element. There is no great yearning to ease that into an incinerator, is there?

Mr. COLE Well, we're still building mass burn units that take it all. It is a totally inappropriate technology. But if you look at the high quality BTU stuff—newspaper, other kinds of paper, many types of plastics even can be recycled now—those are the same kind of things that can be burned. If you don't have that stuff, how can you run an incinerator? What are you going to do, stick coal in it?

Senator CHAFEE. What do you say to that, Mr. Moore? Do you need plastics and beer cans to make your incinerators go?

Mr. MOORE. You certainly don't need any beer cans. In fact, the beer cans are one of the more valuable potential items in the waste stream.

Senator CHAFEE. How about newspapers?

Mr. MOORE. You don't need them. The question is what makes the most sense economically today, five years from now, and 10 years from now. The level of recycling that is going to settle into this country in various regions and various localities we still don't know yet. And what will work in New York City will be different than what works in Omaha, I think we do know that. The point is that you can build a waste-to-energy plant to fit any level of recycling.

Senator BAUCUS. Let me ask how many incinerators are planned to come on line between now and the year 2000? That's only nine years. Is that a big deal?

Let me ask Mr. Moore. How many new incinerators would there be coming on line?

Senator CHAFEE. Are you talking 200 or are—

Mr. MOORE. No, less than that. It could be maybe as many as 50. But right now most of those won't be built given all the uncertainties about ash management and the political difficulties. I am sure you read the decision that Mayor Dinkins announced just two weeks ago, after a tremendous amount of difficulty, a highly politicized issue in his campaign, to recognize the need to try to build three waste-to-energy plants and to update some existing facilities to handle New York City's waste. They have concluded, in a very hostile environment, that that is the only answer for them.

You can accommodate any level of recycling, it is just that you need to do it at the outset. But don't remove the options. Don't tell Mr. Franke and others that what makes sense in his community is not going to be available to him.

Mr. VARELLO. May I piggyback on that just a minute?

Senator BAUCUS. We're going to have to wrap up this session pretty soon because I see Senators Daschle and Inouye here.

Mr. VARELLO. Let me just say that I think it's important to recognize that in Japan, where their culture is much more disciplined than our own, and where they've been at this recycling business

for a lot longer than we have, they've managed to recycle as much as 50 percent of their garbage. We're nowhere near that kind of number; we're closer to 15 or 20 percent. But even in Japan, more than 50 percent of their waste stream still has to go someplace and they take 70 percent of that, incinerate it in 1900 incinerators, make electricity, and put the ash to other beneficial uses, including roadbeds, et cetera. I only hold that up to illustrate that our standard ought to be as good or better. But let's be realistic about what we can do.

One of the things about garbage is everybody knows what it looks like; everybody in this room deals with it. The only way you can recycle a lot more of it would be for somebody to peel the label off every tin can and put it in one bucket, put the tin can in another, put the aluminum can in a third, the brown glass and the green someplace else, and so on. We have a practical limit on what we can do. I think a balanced approach that acknowledges these limits makes sense.

Senator BAUCUS. Okay. I'm going to ask you to stay. But I am now going to turn to Senators Daschle and Inouye to give their statements. We have not yet addressed the tribal lands issues at all, but we are probably going to come back also to some of the other questions we've addressed. So maybe you could slide over at the table to allow room for Senators Inouye and Daschle to present their statements.

Okay, Senators Inouye and Daschle. We're honored to have you here. Senator Daschle, you were here first, why don't you go ahead.

#### OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. I'd like to join in welcoming two distinguished colleagues.

Also, Mr. Chairman, I have a statement that I will just submit for the record.

[Mr. Chafee's statement follows:]

#### OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

I want to thank the chairman of the subcommittee, Senator Baucus, for putting together a thorough hearing agenda on the reauthorization of the Resource Conservation and Recovery Act. By the time we complete our hearing schedule next week, we will have conducted 10 RCRA hearings, and received testimony from almost 70 witnesses.

Today we will focus on three important aspects of managing solid waste:

- the safe design and operation of municipal waste landfills
- the management of ash from municipal incinerators; and
- a disturbing trend of companies targeting Indian reservations to site landfills and incinerators.

Today we are undertaking a multi-billion dollar Superfund program to clean up wastes at old and abandoned sites. A full 20 percent of these sites are municipal waste landfills. This fact underscores the importance of designing and operating municipal waste landfills which will not become tomorrow's Superfund sites.

Our RCRA reauthorization bill puts into place minimum criteria for landfills nationwide. Landfills using these criteria will bare no resemblance to the dumps which are operating today. Rather than scavenging gulls, noxious smells and leaking bottoms, these landfills will contain protective liners, collect methane gas, and eventually be covered with grass and trees.

The old proverb talks about an ounce of prevention. In this case, designing and operating landfills which do not leak will protect our environment, and save future generations untold billions in cleanup costs.

Today we will also focus on ash from municipal incinerators. It is my understanding that this ash sometimes fails the test developed by EPA to determine whether a waste is hazardous. This waste must be handled in an environmentally sound manner. The bill introduced by Senators Baucus, Burdick and myself, S. 976, does this. It requires the ash to be disposed of in a "monofill", designed specifically for ash. These monofills are technically similar to subtitle C, or hazardous waste facilities. If the ash is not disposed of in a monofill, it must be tested, and, if it fails, treated as a hazardous waste.

We will also focus on a disturbing trend: Recently waste firms have approached more than 50 Native American Tribes with plans for landfills, incinerators or nuclear waste facilities. Indian reservations can be an attractive target for waste firms. Reservations are remote and not necessarily subject to State environmental laws. Some Native Americans are also desperate for income, with unemployment running as high as 90 percent in some tribes. Steps must be taken to ensure that Native American lands do not become America's dumping grounds. Senators Daschle and Inouye will join us later to shed some light on this problem.

Thank you again for scheduling this hearing, Mr. Chairman. I look forward to a productive session.

#### STATEMENT OF HON. THOMAS A. DASCHLE, U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator DASCHLE. Thank you, Mr. Chairman, and thank you, Senator Chafee, for allowing us to testify. I have been fascinated by the discussion that you've had. I didn't realize a discussion on garbage could be as interesting and as intriguing as it has been.

Senator BAUCUS. Stick around; it gets even more interesting.

Senator DASCHLE. It really has been a very informative session. I had the good fortune to listen to your discussion and appreciated that opportunity as well.

I recently held a public forum in Sioux Falls on this issue, and I can assure you that there is an acute concern in rural America about Federal landfill regulations and how communities are to meet stricter standards. A lot of people are convinced that South Dakota and rural States don't have waste problems. In fact, many of these people think South Dakota would be a terrific place to put their garbage so they don't have to deal with it. There are waste problems in South Dakota, however. We have open dumps that deserve to be shut down; we have ground water contamination in some areas; and we have grotesque examples of illegal dumping.

One of the things that makes South Dakota special is its environment—clean air, clean water, and open spaces. Throughout the State communities want to do the right thing. They want to clean up unsafe dumps, they want to recycle, they want to minimize waste generation. The question is how. Freeman, South Dakota, has a population of 1,400; it is not New York City. There are very limited resources available to it, and the best intentions in the world and the toughest standards on the books cannot help the residents of Freeman if they don't have the money to deal with their solid waste disposal problems. Towns like Freeman throughout South Dakota want to start recycling programs but cannot because of the expenses involved in transporting the recyclable materials.

Whatever solutions the subcommittee comes up with in RCRA reauthorization must take into account the special circumstances

of rural America, and no one knows that better than the Chairman.

As I stated, the perceived abundance of open land upon which to site dumps has enhanced South Dakota's popularity. There are currently three major imported waste projects being debated in the State. None has received more attention than the proposal before the Bureau of Indian Affairs to allow a Connecticut-based company called RSW to create a 5,700-acre landfill in Mellette County on land owned by the Rosebud Sioux Tribe. Because of the site's proximity to the film location of Kevin Kostner's award-winning movie "Dances With Wolves," I've dubbed this proposal "Dances With Garbage".

Rosebud is not alone. Across the Nation, opportunistic waste companies are contracting with Tribes to have their Reservations become repositories of megadumps or hazardous waste facilities that are unpopular in other areas. These proposals run the gamut—they range from high-tech, state-of-the-art proposals with good safeguards, to elaborate schemes for using Tribal trust lands to skirt State hazardous waste laws, to ill-conceived monstrosities that fail to pass even the most basic tests. The proposed Rosebud-RSW proposal falls into the latter category.

Let me cite a few facts about the proposal just to illustrate the problems we're facing today in South Dakota. At 5,700 acres, the Rosebud-RSW project would be one of the largest, if not the largest, dump in the Nation. In trying to solicit customers in Minnesota, RSW even bragged that the dump would be able to hold all the garbage in the Nation and take care of Minnesota's waste for at least 500 years. The contract does not require any financial bonding by RSW, thereby limiting the company's liability and raising questions about the long-term maintenance of the dump. Under terms of the contract, RSW would have sole responsibility to determine content of the dump and sole authority to monitor groundwater for possible contamination. The contract specifically states that no South Dakota laws apply to the project.

Unfortunately, the Rosebud Sioux Tribe has no solid waste plan and no experience in managing a large regional landfill. While the Tribe has drafted environmental codes which include waste management guidelines, they have not been finalized. RSW, the company to operate the dump, has never built or operated a dump in the past. Perhaps the most outrageous aspect of the proposal is the following: The Tribe's ability to respond to any potential environmental problems is effectively eliminated by the provision in the contract that expressly prohibits the Tribe from enacting any new laws that would adversely affect RSW's profit margin. Should the Tribe enact any new laws designed to protect their safety or environment the Tribe would be liable under the contract for illegal taking of private property and could be forced to pay damages to RSW for any foregone profits.

How did this come to pass? Rosebud is no different than most other Reservations. Unemployment is high, about 85 percent, and the people have few opportunities for economic development. Open dumps are scars on the land causing environmental and health risk. The sovereignty of Tribes allows waste projects to circumvent State law. The waste companies promise money, jobs, and an end



to Tribal waste problems. In return, the Tribes give up their land. This seductively simple solution to an exceedingly complex problem hold the seeds for potential Faustian bargains.

At least 40 Tribes have been approached with waste proposals. The representatives of the Campo Tribe will tell you that these projects can be positive and can offer great opportunities to depressed Reservations while they also address the waste disposal needs of urban areas and the tribes. What the Campo representative may not tell you is that all proposals are not created equal. The subcommittee could have called dozens of witnesses who could have told tales of intimidation, bribes, and blatant misinformation.

Before discussing the merits of a given proposal, it is important to understand a few basic facts.

First, if a Tribe wants to pursue a dump as a means of economic development, it should be permitted to do so. The Tribes, like other communities across the country, face serious waste disposal problems of their own and they need economic development projects to employ their people.

Second, if a Tribe wants to explore a landfill project, there must be a better context within which to proceed. The BIA and IHS need to develop comprehensive regulation to address these proposals so that the environment is protected along with citizens' rights and Tribal and Federal sovereignty. And the EPA should be given a formal role in evaluating and approving individual projects.

Finally and most fundamentally, Tribes should not be forced to accept these projects just because they have their own waste disposal problems and need jobs. The Federal Government has a trust responsibility to help Tribes deal with waste disposal on the Reservation. This responsibility should be exercised not abdicated. As long as the Federal Government, both the administration and Congress, turns a blind eye to waste problems on the Reservation, effectively inviting commercial dumpers to the Reservation, we make a mockery of these responsibilities.

Recent elections on the Rosebud and a Tribal Council vote just yesterday appear to have effectively killed the Rosebud dump proposal. But even if Rosebud dump is dead, the problem and the causes of the problem will not go away. As the Chairman knows, and we have discussed at length the problem of waste disposal on Reservations, this is an extremely complex issue that cannot be completely addressed by me, Senator Inouye, or by the lone private witness who will testify today.

I understand the distinguished chairman of the Select Committee on Indian Affairs has personally communicated his desire to have a separate joint hearing on this issue before our two committees. I look forward to working with you and other members of this committee as we continue to address this issue in the context of RCRA reauthorization.

Thank you for this opportunity to comment, Mr. Chairman.

Senator CHAFFEE. The joint hearing—you mean the committee on Indian Affairs?

Senator DASCHLE. That's correct.

Senator BAUCUS. Thank you very much, Senator.

Senator INOUE.

**STATEMENT OF HON. DANIEL K. INOUE, U.S. SENATOR FROM  
THE STATE OF HAWAII**

Senator INOUE. Mr. Chairman, Senator Chafee, I thank you very much for this opportunity to appear before your subcommittee to address the issue of tribal government regulation of solid waste disposal on Indian Reservations.

Mr. Chairman, before turning to the issue of solid waste disposal in Indian Country, I would like to briefly review for the committee the multifaceted policy of the United States toward Indian Tribal Governments.

First, the United States Constitution recognizes the inherent sovereignty of Indian Tribal Governments and vests in the Congress plenary authority over Indian affairs. It is upon this Constitutional foundation that the Government-to-Government relationship between the United States and Indian Tribal Governments is premised. And, as we all know, this relationship was most recently reaffirmed by President Bush on June 14, 1991, in the statement that he issued on Administration's policy.

Second, in exchange for the vast amounts of Indian lands that were ceded to the United States, our Government has assumed the trust responsibility for Indian lands and resources.

The third feature of Federal-Indian policy arising out of the Government-to-Government relationship is the protection of Tribal sovereignty to foster the Federal policy of Indian self-determination.

And so, Mr. Chairman, these are the principles that have guided the evolution of Federal Indian law for the last 20 years, and it is these principles that guide the work of the Select Committee on Indian Affairs. I respectfully commend them to your consideration because they will inevitably bear upon your consideration of the amendments I wish to propose for your consideration.

As you are the experts in the field of environmental protection, I know that you are aware that in most of the Federal environmental regulatory statutes, Tribal Governments are accorded the status of State Governments for purposes of regulating environmental quality on Indian lands. The current RCRA law is the one exception to this general regulatory framework. The Clean Air Act, the Clean Water Act, the Comprehensive Environmental Response Compensation Liability Act, the Safe Water Drinking Act all have specific provisions that authorize the EPA to treat Tribal Governments as State Governments. The regulatory framework embodied in these acts is premised upon the recognition that State laws do not apply on Indian lands. Accordingly, a comprehensive system of environmental quality regulation necessarily relies upon the exercise of regulatory authority by Tribal and State Governments and the Federal Government, with the exercise of Tribal and State authority subject to preeminent Federal laws and standards.

The Congress has consistently recognized and reaffirmed the appropriateness of this jurisdictional framework not only in environmental statutes but in the broad array of Federal law. So it is that we approach issues of solid waste and hazard waste disposal on Indian lands within the context of the recognized authority of

Tribal Governments to regulate environmental quality on Indian lands.

The environmental statutes to which I refer, those that accord Tribal Governments the status of State Governments for purposes of environmental quality regulation, are similar in the respect that they provide for the treatment of Tribal Governments as State Governments if—and these are the conditions—the Tribal Government is recognized by the Secretary of the Interior and has a governing body that carries out substantial governmental duties and powers; second, the functions to be exercised by the Tribal Governments are within the jurisdiction of the Tribal Government; and third, the Tribal Government is reasonably expected to be capable, in the judgment of the EPA, of carrying out the functions to be exercised in a manner that is consistent with the purposes of the Act. So the Secretary of the Interior and EPA have jurisdiction over deciding whether these Tribal Governments are qualified or capable of carrying out a role similar to that which State Governments are now doing.

Until Congress acted to provide authority for the delegation of environmental regulatory authority to Tribal Governments, the enforcement of environmental standards on Indian lands lay exclusively within the Federal Government. That condition continues to obtain with respect to the enforcement of standards for disposal of solid and hazardous waste on Indian lands. Accordingly, unless Congress acts to accord Tribal Government the status of State Governments for purposes of implementing the requirements and standards of the Resource Conservation and Recovery Act, the EPA will continue to have the primary responsibility for enforcement of solid and hazard waste standards on Indian lands.

The Tribal Governments, like State and local Governments, have been confronted with the often urgent need to address issues of solid waste disposal, as pointed out by my colleague, Senator Daschle. Immediate attention must be focused upon the environmental pollution problems associated with open dumps on the Indian Reservation lands. These problems are not dissimilar to those confronting small, rural communities throughout the United States which are subject to citizen suits for failure to maintain safe and sanitary conditions.

I believe it should be noted that there are over 650 sites on Indian lands where solid waste is presently deposited. This number includes 108 landfills which were constructed by the Indian Health Service, which is a Government agency, and which met existing IHS standards when they were built. However, since 1970, because more stringent standards have been enacted by the Congress, at this time only 2 of the 108 Tribal landfills are in compliance with EPA requirements. A preliminary estimate in 1990 of the amount needed to upgrade these landfills was \$68 million. Other solid waste disposal sites on Indian lands are estimated to require another \$45 million either to close or to upgrade the sites to meet current requirements.

A second solid waste issue deals with the potential use of Reservation lands as sites for commercial sanitary landfills and solid waste disposal facilities, which was most eloquently described by Senator Daschle. Much media attention has been focused in recent

months on alleged efforts by waste management companies to site such facilities on Indian lands. The Select Committee on Indian Affairs is also addressing the matter of commercial waste project development on Indian lands through consideration of a bill, S. 1687, which will increase the capacity of Tribal Governments for waste management on Indian lands.

With recognition of Tribal Government regulatory authority under RCRA, Tribal Governments would be eligible to receive funds to assist them in developing solid waste management codes. These codes will provide for the management of waste generated on the Reservations, for the clean up of open and unauthorized dump sites on Reservation lands, and for the development of regulations to govern the operation of commercial solid waste projects on Indian lands.

So on behalf of those solid waste experts in Indian Country and Tribal Government leaders with whom the Select Committee has been working over the last several years, I wish to request your consideration of proposed amendments which I would like to submit with my testimony. The inclusion of these amendments in S. 976 will enable a national comprehensive regulatory scheme for the regulation of solid and hazardous waste disposal in which Tribal Governments must inevitably play a critical role.

I thank you very much, sir.

Senator BAUCUS. Thank you very much, Senator, for that very informative, provocative, and instructive statement.

I am wondering if you could follow along with me for a few minutes as we try to separate out a few conflicting points. As I understand it—and Senator Daschle, if you could chime in here, too—the problem is this: The Resource Conservation and Recovery Act treats Tribes as municipalities not as States. Accordingly, Tribes, because they are treated as municipalities, feel that because they are sovereign entities the Federal law does not apply to them. Whereas, if Tribes were treated as States, then the Resource Conservation and Recovery Act would have its Federal provisions that would apply generally to all States and to Tribes because they are also considered States, and States would then be left under RCRA, particularly the solid waste provisions, to develop their own rules and regulations as they apply to solid waste.

So as I understand it, essentially it is your recommendation, Senator, that Tribes be treated as States for the purposes of the Resource Conservation and Recovery Act, and, accordingly, that Federal provisions would apply not only to all States but to Tribes that are recognized by the Department of the Interior and according to the conditions that you outlined. Then the Tribes would then adopt their own provisions with respect to solid waste management. Is that essentially—

Senator INOUE. Essentially, that is correct. As the Chairman is well aware, the Federal Government and this committee has recognized the sovereignty of Indian Nations and accordingly in the Safe Water Act, Clean Water Act, Clean Air Act, other environmental regulatory acts have so declared that Indian Tribal Governments will be treated like State Governments. What I am suggesting is that the same status be accorded in the RCRA law.

It should also be noted, as I pointed out in my testimony, that it is not just a flat out recognition. Before any Tribal Government can be recognized as a capable Government, it has to be approved by the Secretary of the Interior, show that it does carry out fundamental governmental activities, and it is a working government. And second, EPA, as it does in the other acts, would declare that this Government agency, the Indian Tribal Government, has the capacity of regulating like States.

Senator DASCHLE. Mr. Chairman, let me just elaborate. I think that the answer to your question is yes and no, because yes, just as the Chairman very capably responded to the jurisdictional issue, but you have another problem here. You have a whole set of new agencies that the Chairman just alluded to. You have BIA and IHS who are playing a regulatory role that is not existent in our relationships with the States. So you have a different administrative function here with both BIA and IHS, and you have, for all intents and purposes EPA on the sidelines providing advice to two separate agencies. That's all they can do—serve in an advisory role; they often have no regulatory function on the Reservation. I think we've got to address that. I think we've got to clarify EPA's role. In fact, I would like to see them play a much more active role in this process.

Second, I think we've got to ensure that BIA and IHS are capable of serving the purpose for which we've designated them to serve. They aren't capable in my view of doing that adequately today.

Senator BAUCUS. This is a very complicated subject. There are no simple answers here. Essentially, as I understand it, the problem say in South Dakota is that because the Resource Conservation and Recovery Act does not treat Rosebud, for example, as a State and, again, Rosebud feels it is a sovereign entity, consequently, not only does South Dakota law not apply with respect to the Rosebud situation but also Federal law either does not apply or else it is seriously contested. So the solution, as proposed by Senator Inouye, would be that because Tribes for various purposes—not for all purposes but for some purposes—like to regard themselves as sovereign, that, at least for the purposes of the Resource Conservation and Recovery Act, Tribes be accorded sovereign treatment so that under our Constitutional rubric the Resource Conservation and Recovery Act would generally apply and would then require the Tribes, because they are accorded State status for purposes of this Act, to develop their rules and regulations and also be subject to the same Federal RCRA standards that apply to all other States.

Senator DASCHLE. I think that general description is correct with the understanding that BIA and IHS will be playing a regulatory role that is unparalleled with respect to the States under RCRA. So there is going to be a complicating feature.

Senator BAUCUS. I would like to pursue this a little bit further. Tribes are not homogeneous; different Tribes are different in a lot of different ways. One is the number of nonmembers that have to live on Tribal land. Some Reservations, as you well know, are closed almost entirely, some cases only Tribal members live on Reservation lands. There are other Reservations where it is very much the opposite; a vast majority of people who reside on Reservation

land are not members, they are just nonmembers who own fee simple title to property. So the question is to what degree—and I ask this of Senator Inouye—under your proposal, to what degree would there be some flexibility as the degree to which States and/or Tribes solely or jointly would be given the responsibility and have the right to develop the kinds of local regulations that a State would otherwise adopt?

Senator INOUE. First of all, I would like to point out that I am certain Indian leaders recognize that Federal law does apply on Indian Reservations.

Second, as to your question, under the provisions of the amendments that you are considering and under the provisions of the RCRA law, in order to receive funds, assistance grants, you have to meet certain standards. When you set up your own regulations they would have to comply with the basic standards set forth by the Federal agency. This, in and of itself, would be a very powerful controlling factor because obviously, as Senator Daschle has pointed out, I can't think of a single Indian Reservation that can be considered wealthy because the best condition I can think of is 15 percent unemployment. When you consider that the average unemployment is 58 percent, any assistance of this sort would be eagerly sought after and then all the strings are going to be attached. I am certain that Indian Governments would be willing to go along with these same standards that are established for the several States.

Senator BAUCUS. I apologize to the Senator from Connecticut. My time expired some time ago and I would now like to yield to the Senator from Connecticut.

Senator LIEBERMAN. I thank the Chairman. I don't really have any questions. I apologize that I was presiding so I arrived a little late.

I am troubled in a general sense and a specific sense because of the company that has been referred to as a Connecticut-based company and I therefore feel at least an obligation to, first, locate them and then, second, to raise questions with them that you've raised. I would be glad to share those answers with you. The concerns of both of our colleagues are appreciated and I look forward to working with you to try to alleviate them.

Senator BAUCUS. I'd like to ask representatives of the solid waste management companies if they have any thoughts on this subject we're now exploring.

Mr. MOORE. If I might, Mr. Chairman. Let me say that I am not an expert in Indian affairs and in exactly how Indian Reservations are governed. I do know that our members are very interested in getting exactly the kind of clarification that the two Senators and you are seeking. We have no desire to be in any way associated with any project or proposal that could be seen as exploiting a situation. There is a loophole, no question about it, which needs fixing. As I understand Senator Inouye's suggestion, it would be to treat for these purposes the Reservation as if it were a State. That may make the most sense and I am very interested in studying his amendment.

Another possible way—and here I am treading on thin ice because this thought is off the top of my head and there may be implications that I haven't thought through—would be to explore

whether you could treat the RCRA subtitle D rules on Indian Reservations the way we treat subtitle C rules nationally. That is, there is a national set of rules that the EPA is required to enforce; authority is not delegated to the States but there is Federal enforcement, if you will. I frankly don't know if that makes sense, but it is an alternative approach aimed at the same objective. I think the question is what is the most appropriate role for the Federal Government in enforcement and what is the most appropriate role for the Reservation.

One second issue that I think warrants attention is the whole issue of construction and demolition waste, industrial waste, and orphan wastes which are at the moment separate from subtitle D as well and could also be a possible problem if there were those who were trying to take advantage of the absence of rules nationwide to build projects.

Senator BAUCUS. Thank you.

Senator INOUE. Mr. Chairman, I think those suggestions are very worthy of consideration by both of our committees. I would be very happy to as chairman of the Select Committee.

Senator BAUCUS. I might just follow up a little bit on the open Reservation question. To state it more precisely, a slight problem I can see with the suggestion of Senator Inouye unless it is modified in some way is that on some Reservations where the majority of residents are nonmembers and do not have a say in Tribal Government—that is they don't vote or sit in Tribal Council—those people who reside in that geographic area could have a complaint or concern that landfill decisions, siting decisions made by people whom they are unable to vote for or against may not be in complete accordance with their wishes; they would basically be disenfranchised. That's why I asked the question is there some way to be sufficiently flexible to accommodate those specific kinds of situations. Reservations are so different one from the other, as is the composition of the people who live on the reservations.

Senator INOUE. In dealing with sovereignty, we have this problem throughout the United States—at the present time I am residing in Maryland and residing in Hawaii, I spend most of my time in the State of Maryland—I am disenfranchised in the sense that I do not vote for my council or my congressman or my senator from the State of Maryland; I vote in Hawaii. But I think that is an understanding most of us have. When I travel to your State or to Senator Daschle's State, when I cross the border, I immediately assume that the State has jurisdiction over my conduct. If I speed and break the rules of that land, I know I will be subject to your laws even if I don't have the right to vote for my good friend here. If I had, I would vote for you.

[Laughter.]

Senator BAUCUS. There's a difference here.

Senator DASCHLE. There is a difference.

Senator BAUCUS. There's a major difference here. The difference is that these people can't vote where they reside. You have two residences, but these people I'm speaking about are people who live in a certain area, that's their livelihood, that's where they reside. They are unable to vote for or against people who make very basic

decisions that affect their livelihood, and certainly siting a landfill is one.

Senator INOUE. When they entered into the Reservation they assumed that.

Senator BAUCUS. Well, that's the question. I don't know if they did or not. When you go to France, you get to vote.

Senator DASCHLE. You can become a citizen of France, you can become a citizen of Maryland, the question is can you become a citizen of a Reservation. Under current law, you can't in most cases. There is a very fundamental Constitutional principle here, but this is an issue that we've taken up in the committee at length and the Chairman feels very strongly, as I do, about the issue. But it is related to this, no question about it.

Senator BAUCUS. Well this has been a very provocative hearing. I very much appreciate the testimony of all the witnesses.

Senator Lieberman, do you have anything further?

Senator LIEBERMAN. No, Mr. Chairman.

Senator BAUCUS. Thank you all for coming to testify. We'll try to resolve this.

This hearing is adjourned.

[Whereupon, at 11:50 a.m., the subcommittee recessed, to reconvene on Friday, September 13, 1991, at 9:30 a.m.]

[Statements submitted for the record follow:]

#### PREPARED STATEMENT OF RANDALL FRANKE

Mr. Chairman, members of the subcommittee: I am Randall Franke, County Commissioner for Marion County, Oregon and third vice president of the National Association of Counties (NACo). am here today to testify not only on behalf of NACo and the 3,000 counties we represent, but also in my capacity as co-chair of the local government Solid Waste Action Coalition (SWAC) which includes the Rational League of Cities (NLC) and the 16,000 cities and towns it represents, the Solid Waste Association of North America (SWANA, formerly the Governmental Refuse Collection and Disposal Association) and the 6,300 members it represents, as well as NACo.

As You are well aware, we at the local government level are all struggling with ever-increasing volumes of solid waste. Accordingly, I would like to take this opportunity, Mr. Chairman, to thank and congratulate you and your colleagues on the Environmental Protection Subcommittee for beginning to tackle many of the major problems associated with the management of solid waste.

The management of solid waste has traditionally been the province of local government. It is only a recent phenomena—now that we are faced with numerous intractable problems: the NIMBY (not in my backyard) and NIMTOF (not in my term of office) syndromes; the vehement opposition, in some communities, to incineration; the gradual decline in available sanitary landfill capacity; the significant rise in public enthusiasm for recycling simultaneous with scarce to non-existent markets—that the issue has become one of national concern.

My testimony will focus on what we see as the critical role for the Federal government in helping local governments address the disposal of solid waste:

1. Development of standards for acceptable ash disposal practices;
2. Recycling;
3. Definitions and measurements of and for solid waste;
4. Waste reduction/minimization initiatives;
5. Criteria for municipal solid waste landfills;
6. Planning; and,
7. Training.

#### 1. DEVELOPMENT OF STANDARDS FOR ASH DISPOSAL PRACTICES

As a local elected official in a community that exercises the waste-to-energy option, I wish to commend the committee for rejecting the simple and politically expedient option of imposing a moratorium or an outright ban on the use of this method as a solid waste management tool.



The nation's local governments have been responsible for managing the nation's ever-increasing volume of solid waste. We, that is our cities, towns, counties and local government solid waste management professionals, have long supported what has now come to be known as an integrated solid waste management strategy: a strategy which includes waste reduction, recycling, waste-to-energy, and use of land-filling. Each community, depending on its particular situation, may place more emphasis on one or more of these methods for managing their waste. We firmly believe that we must develop a realistic statutory and regulatory framework that promotes the development of all four management options while allowing for local flexibility in meeting solid waste management needs.

Last year, in your deliberations on the Clean Air Act, Congress reached consensus on standards for air emissions from waste-to-energy facilities. It remains essential that you complete the job and develop standards for ash disposal facilities as well.

Waste-to-energy facilities have allowed many communities, such as mine in Marion County, to recover energy from that waste which we have not been able to recycle. It has also allowed many communities to extend the life of existing landfills because of the significant—as much as 90 to 95 percent—reduction in volume which occurs with incineration.

Despite the positive benefits, controversy regarding the safe disposal of ash has dampened the ability of many local governments to include waste-to-energy facilities as part of an integrated approach to solving their solid waste management dilemma. Much of this controversy is based on the erroneous perception that ash is hazardous, rather than on hard data which indicates otherwise. The controversy has also been exacerbated by the inadequacy of regulations and guidelines or the inability to implement same.

Your bill clearly was drafted to provide better direction for the safe management of solid waste. First, we heartily applaud the provisions in the legislation that designate ash as a "special" Subtitle D waste. We believe however, that S. 976 provides too much direction by incorporating specific design standards. Perhaps it is a response to the vociferous, if ill-informed, opposition to incineration from some quarters. Nevertheless, we believe such specificity is neither justified by science nor does it belong in Federal law.

For the past five years, Marion County has operated an ash monofill to dispose of ash from our state-of-the-art waste-to-energy facility. Our ash monofill has been the most extensively studied facility in the country by both EPA as well as ourselves. The results of the past five years of study shows that the major constituents in leachate generated in an ash monofill are salts—salts which are similar to those in sea water. In addition, the concentrations of all metals were below EPA's Extraction Procedure Toxicity and Toxicity Characteristic Leaching Procedure maximum allowable limits. All metals for which there are primary drinking water standards, except barium, were within their respective maximum allowable contaminant levels. This leachate is so benign that we collect it and use it to spray irrigate grass seed crops.

During the period in which there were no Federal or State technical guidelines on ash disposal facility design, Marion County worked with the State of Oregon, one of the more environmentally concerned State in the nation, to develop ash monofill standards. The standards were based on the data which has been collected at our facility and the State has determined that a single flexible membrane liner (FML) over one foot of clay was sufficient to protect the environment from salt water, which is what our ash monofill leachate is.

We believe that the monofill approach to ash disposal is an appropriate management strategy. But, the S. 976 requirement which mandates both a composite liner and an additional flexible membrane liner is inappropriate for a number of reasons:

1. We should guard against mandating design standards in legislation. Such a requirement locks in the utilization of only one approach for protection without any guarantee that this design will achieve the desired degree of protection. What if the mandated design is inappropriate? To change to a more preferred design would require Congressional action and further amendments to RCRA.

2. It fails to recognize site specific conditions which may dictate an entirely different design to meet the same desired degree of protection. Geology, hydrology, climate, soils, all of these affect the siting and design of a disposal facility. The language of S. 976 should address protection of human health and the environment and not engineering decisions.

3. It prevents the flexibility needed by State regulatory agencies to meet their own mandated regulatory programs.

4. It locks in one technology and discourages research and development to find improved approaches.

We are also concerned about the proposed requirement for the treatment of fly ash prior to disposal in a monofill. There is absolutely no technical or scientific justification for such a requirement. Fly ash has been used in many European countries as a building material with no adverse effects on human health and the environment. Why then should we place such requirements on practices here in the United States? S. 976 provides for a number of safeguards including, composite liners, monitoring, financial assurance and corrective action. These measures, plus a monofill design, which is patterned specifically to minimize adverse leaching processes, provides both a "belt and suspenders" level of protection.

We also believe that the requirement for testing of ash prior to disposal in a sanitary landfill (while not defined in S. 976, we presume that this means in combination with municipal solid waste) and at the same time requires the fly ash to be treated before it is combined with bottom ash for disposal. If the ash passes all tests and is deemed safe for disposal in a sanitary landfill, why is it necessary to treat the fly ash prior to combining with bottom ash for disposal?

Additionally, much work has been done on the potential beneficial use of ash. It appears that the chemical and physical properties of this material are promising for uses other than disposal in a monofill. However, without adequate Federal directions, local governments are—and will remain—reluctant to move ahead.

We agree with Administrator Reilly when he says "the environmental debate has long suffered from too little science. There has been plenty of emotion and politics, but scientific data have not always been featured prominently in the environmental efforts and have sometimes been ignored, even when available."

We would urge you to seek technical advice, review the Marion County leachate data, as well as data from other ash monofills across the country, along with approved State designs, prior to making a final decision on ash disposal standards. We also urge you to rethink requiring treatment of ash that has passed the required testing procedures. This will foster an approach which protects the environment and does not unduly cost the cities and counties and ultimately the public, money that is not justified.

## 2. RECYCLING

There is much enthusiasm and support among our citizens for enhanced recycling initiatives. It is an enthusiasm local officials share, although we are perhaps more guarded in our optimism about such a program's ultimate success. Unless the Federal Government invests significantly in both enhancing the markets for recycled goods and expanding the number of items in the waste stream that can be recycled, these programs are unlikely to succeed.

We sincerely applaud and commend you for the recycling provisions in S. 976. You have taken a number of bold initiatives and recognized that without Federal intervention in market creation, the potential for warehouses full of unrecycled recyclables is very real.

First, all three of our organizations believe that at a minimum, the Federal Government should take the lead in ensuring markets for recycled products by mandating their use, as appropriate, by Federal agencies and government contractors.

Second, we fully support your minimum content standards. This is indeed a major—and necessary—step in the right direction for stimulating markets for the specific products listed in the bill.

Third, we appreciate that your recycling requirements are "goals," not "mandates." While we will always remain apprehensive that "goals" become "mandates," at least perceptually<sup>1</sup> perhaps committee report language specifically indicating the committee's understanding that for some areas of the country the "goals" will not be attainable, would solve the problem. A number of you are from substantially rural States with many small communities of significant distance from each other and from markets. Attaining significant recycling percentages in these areas is clearly going to be far more difficult than for these of us with access to major transportation networks.

Fourth, our coalition supports mandatory deposit legislation on such items as beverage containers, batteries and tires.

## 3. DEFINITIONS AND MEASUREMENTS OF SOLID WASTE

A major problem in municipal solid waste management is the absence of uniform definitions and consistent sampling, analytical and reporting methodologies. As waste reduction and recycling removal and utilization goals are established, the lack of uniform measurement and reporting methods will make it impossible to determine compliance or goal achievement. How can we achieve a 25 percent recycling

rate if we don't know how it is measured, where it is measure, or how the rates are defined?

We recommend that your legislation require EPA to issue guidelines which:

- a) define municipal solid waste, what solid waste streams —i.e., residential, commercial, industrial—will constitute municipal solid waste;
- b) establish how municipal solid waste will be described by:
  - generation rates
  - physical characteristics (composition, moisture, density)
  - chemical characteristics
  - biological characteristics, and
- c) establish sampling procedures for determining the physical, chemical and biological characteristics of municipal solid waste.

#### 4. WASTE REDUCTION/WASTE LEGISLATION

Waste reduction initiatives are perhaps one of the most important steps the Federal Government can take in easing the crisis in solid waste disposal. Waste reduction to us means packaging restrictions, limits on the development of new "disposable" products, as well as reductions in toxic constituents in products that ultimately find their way into the municipal waste stream.

While many local governments and several States have taken the initiative in attempting to reduce the volume and/or toxicity of municipal solid waste, we believe this can only be done effectively at the national level.

S. 976 does address the reduction of toxic constituents in products that find their way into the municipal waste stream, but does not adequately address other source reduction initiatives.

Local governments can have only a limited impact on how products are packaged or the volume of products that are "disposable." We are constrained in these efforts not only by interstate commerce protections, but also by local economics.

Under most circumstances local ordinances can effectively reach and affect only local businesses. We can adopt ordinances prohibiting the use of lead in newsprint, but its applications will be limited to our local newspaper. We cannot apply such ordinances to newspapers printed outside of our boundaries nor can we ban the importation of out-of-town newspapers printed with lead-based ink.

The biases and constraints that make waste reduction unworkable at the State and local level are far less problematical at the Federal level. For one, Federal laws have the advantage of establishing uniformity nationwide. Second, national initiatives to minimize wastes don't run afoul of interstate commerce protections. And finally, national source reduction initiatives create a level playing field—everyone has to comply and no one is put at an economic disadvantage vis a vis a competitor.

From the local perspective, we believe a Federal initiative establishing a materials use policy is necessary. Such a policy would include packaging standards and a national packaging reduction goal, limits on the development of new "disposable" products, incentives for bulk packaging, packaging efficiency as a consideration—along with recycled content—in procurement policies, and Federal efforts to build awareness of and support for source reduction policies.

It would also seem from industry's perspective that they would rather deal with one set of Federal requirements than have to tailor their products and product packaging to meet the requirements of 50 different State laws and thousands of variations of local ordinances.

#### 5. CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS

We commend the committee for recognizing the importance of sanitary landfills as part of integrated solid waste management. The intent of section 404 for landfills is laudable and gives a clear signal to all involved in environmental policy, that the committee recognizes the need for sanitary landfills and, when properly sited and regulated, that they can be designed and operated in a manner protective of human health and the environment.

The sanitary landfill provides the foundation for integrated solid waste management. It provides a means of disposal for those solid wastes for which we have no other management method available. It provides the flexibility for a community to embark on recycling. When markets fail, or recovered materials don't meet specifications, it is there to provide disposal flexibility.

When waste-to-energy facilities must shut down for maintenance or in case of an unexpected shut down, it is there to take the solid waste. Consequently, the intent of the committee to assure proper design and operations by establishing guidelines, is fully supported by our coalition.

In fact, much of what is included in the language of S. 916 regarding guidelines for landfills, is a reflection of current practices in the field. Certainly, waste screening, daily cover, access control, run-on and run-off controls, landfill gas management, leachate management, proper closure, closure and post-closure control, ground water monitoring, financial assurance, and correction action are state-of-the-art and are being practiced by most disposal facilities sited within the last decade.

As with ash disposal facilities, here too, we are concerned by specific design requirements in legislation. The language not only specifies liner thicknesses, but also specific liner materials. To write engineering specifications into legislation is, we believe, totally inappropriate.

#### 6. PLANNING FOR INTEGRATED SOLID WASTE MANAGEMENT

Section 402 of S. 976 addresses the development of State and regional solid waste plans. We believe the intent of this section is valid, but would urge the committee to consider expanding the requirements of section 402 to include the development of several integrated solid waste management plans:

a) A National Integrated Solid Waste Plan which identifies and defines what the Federal Government will do to advance the utilization of the four methods of integrated solid waste management—waste reduction, recycling, combustion, and landfilling.

b) State Integrated Solid Waste Plans which identify and define what each State government, individually or in partnership with other states, will do to advance the use of these methods.

c) Local Integrated Solid Waste plans, developed by each local government jurisdiction, individually or in partnership with each other, which identify and define how waste reduction, recycling, combustion and landfills will be utilized to provide the necessary capacity for all municipal solid waste generated within, exported from, or imported into a specific local government jurisdiction.

We have only these four means to manage our municipal solid waste. These four methods of integrated municipal solid waste management do not compete, but combine to provide the necessary capacity to manage solid waste within a community.

Local governments can, and are, working effectively to site and operate combustion and landfill facilities. Local governments do not need State and Federal assistance in either of these efforts, other than the establishment of intelligent regulations and stability in the implementation of those regulations. Local governments can plan for these two methods and can be successful in implementing capacity from these two methods.

The same cannot be said for planning for anticipated capacity from waste reduction and recycling. Local governments, while eager to implement waste reduction and recycling programs, cannot accomplish this alone.

Municipal solid waste begins as a commodity or product. It eventually ends up as a solid waste when the manufacturing process is complete or the usefulness of the product is over. Consequently, while local governments may wish to reduce the amount of solid waste generated, they can have little impact on the design and manufacture of products. If local governments are to include some amount of waste reduction in their capacity assurance plans, they will look to their State and the Federal Government to assure the necessary levels of waste reduction.

Similar concerns face local governments when they plan for recycling. Recycling occurs when a material is removed from the solid waste stream and is reused. The key is reuse, and reuse depends on markets. S. 976 is attempting to deal with the problems of markets in a number of innovative and daring ways. We feel strongly, however, that the recycling initiatives in S. 976 can be enhanced and strengthened by a more aggressive approach in planning for capacity from recycling.

In essence, what we are saying is that planning for integrated solid waste management must be done at all three levels of government. Local government will develop and implement plans which will consider, and where appropriate, utilize all four methods of integrated solid waste management. Local government can and will plan for capacity from combustion and landfilling. But, the States and the Federal Government must act to provide capacity from waste reduction and recycling. As with local government committing to the public to provide for integrated solid waste management, we believe that the States and the Federal Government should also commit to the public to be part of the process. That way everyone will know what to expect from each level of government.

## 7. TRAINING PEOPLE FOR SOLID WASTE MANAGEMENT

One of our most critical needs is enough trained and qualified people to meet the demands for solid waste management. Unlike other fields of environmental protection, solid waste management does not have universities graduating students with majors in this discipline. Little or no funding is available to universities to conduct basic or applied research in the field, except for the very limited efforts of EPA and one or two associations, continuing education in the field of solid waste management is almost non-existent.

RCRA should provide the authority for the Federal Government to invest in the development of programs to educate and continue to train people to manage solid waste.

We urge the committee to make a commitment to amend RCRA to stimulate training, university research and continuing education by:

First, requiring a set percentage of monies appropriated for implementing RCRA to be used for research at the university level and for the development and delivery of undergraduate and graduate level training in solid waste management;

Second, requiring that all solid waste management facilities be managed and operated by trained and certified managers and operators;

Third, requiring a set percentage of monies appropriated for implementing RCRA to be used for funding the development and support of continuing education programs for those who are already working in the field or who wish to enter the field of solid waste management;

And finally, the establishment of a national solid waste training advisory committee composed of university representatives and practicing professionals in the field of solid waste management to develop and guide a national strategy for solid waste management education and training.

Training, continuing education, basic and applied research is needed to provide the personnel, science and technology to carry out the purposes of S. 976. We urge the committee to include a national commitment to provide for those needs in a RCRA reauthorization measure.

I appreciate the opportunity to testify on behalf of the nation's local governments—counties, cities and towns—and their local government solid waste management professionals. I would be pleased to answer any questions the committee may have.

[Attachments to this statement have been retained in committee files.]

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 PREPARED STATEMENT OF ALLEN MOORE

Mr. Chairman, my name is Allen Moore. I am President of the National Solid Wastes Management Association (NSWMA), a trade group representing more than 2,500 private waste service companies in the United States and Canada. Our members include transporters of solid and hazardous waste, operators of hazardous waste treatment and disposal facilities, waste recyclers, waste-to-energy companies, sanitary landfill operators, manufacturers and distributors of waste management equipment, and firms providing legal, financial, and consulting services to the waste management industry.

I am pleased to be here today to share the industry's views regarding S. 976 which would amend and reauthorize the Resource Conservation and Recovery Act (RCRA). We are encouraged by your efforts to establish a Federal framework to guide the management of solid waste within the United States into the next century. We support the enactment of clear Federal policies to assure that all waste is managed in a manner which protects human health and the environment, and to assure that communities across the country have the broadest range of options from which to create comprehensive waste management systems. In the following pages I will provide detailed comments on certain of the solid waste provisions of your bill. In a subsequent document, I will offer comments for the record on other provisions required to improve administration of hazardous waste programs.

## STATE PLANNING FOR SOLID WASTE MANAGEMENT

NSWMA has long been a strong advocate of good State planning, believing it to be the essential first step to actual creation of adequate disposal capacity. Consequently, we generally support the requirements you have proposed. In particular, we support the requirement for Federal oversight of all States' submissions to assure that each of the 50 States is contributing its share to the national solid waste solution.

However, we fear that the complicated and time-consuming process of review required by S. 976 may defeat the very purpose of having the Environmental Protection Agency (EPA) approve the plans in the first place. To avoid making the planning process an end in itself, and to expedite ultimate implementation, we hope you will consider giving EPA a shorter deadline for its review and allowing the Agency maximum flexibility to undertake it. That will likely mean a need for additional staff resources, Mr. Chairman. I urge the committee not to give new responsibilities to the Agency if you are not prepared to give it the funds needed to carry out those responsibilities.

We also believe that States need assurance that they will have an answer. Therefore, in the absence of EPA action to disapprove within a limited time certain, approval of a State's plan should be automatic.

#### STATE PERMITTING FOR SOLID WASTE MANAGEMENT FACILITIES

We are generally supportive of the bill's provisions governing permits for waste management facilities, particularly those which make explicit EPA's authority, on an exception basis, both to issue permits to such facilities and to ensure their compliance. We suggest, however, that certain requirements be reexamined. For example, we believe that it is bad public policy to limit the term of permits in Federal law. Permits should be based on the lifetime capacity of the facility being proposed, and are properly the purview of the State issuing authority. For example, a landfill having a planned capacity of 20 years should logically be permitted for 20 years. Individual cells of that landfill should be subject to technical review prior to construction since a cell built using today's standards might well be different from one built fifteen years from now. But a complete reevaluation of the permit—the need for the landfill, in a particular location, subject to certain general conditions—is not necessary as each cell comes on line. Similar arguments hold for the permitting of a municipal waste combustor (MWC).

In the event Congress chooses to constrain States' permitting flexibility, we suggest that five years as proposed in S. 976 is well short of consistency with the time-frame of the planning provisions and well short of the requirements of the financial community which requires a reasonable return on investment in these infrastructure facilities.

Second, a permit fee need not be authorized by Federal law since States already have authority to establish user fees, and, in any case, the proposed fee seems quite high. Small communities where disposal fees often range from \$0 to \$15 per ton may become the unintended victims of a sincere effort to create resources at the State level. That additional resources may be required by a State to manage solid waste disposal properly is not at issue; nor do we oppose user fees based on the cost of, and dedicated to, the services provided. We question whether the fee and its escalator provisions proposed under S. 976 is not simply a national tax on the generation of solid waste, and whether that is the most equitable way to finance State oversight of the waste disposal system. I would point out that a \$2 per ton fee will cost a community of 25,000 people over \$40,000 a year.

Third, we are concerned by use of the term "guidelines" throughout this section of the bill. We support the promulgation of minimum Federal standards for solid waste management facilities because we believe they are crucial to the protection of public health and the environment as well as to the credibility of the waste management process nationwide. We believe from other sections of S. 976 that it was your intent to create a baseline system of requirements that were federally enforceable, but we fear some confusion in that the term "guidelines" may be interpreted as advice to the States to be used selectively or ignored. We believe your "guidelines" should be requirements.

#### MUNICIPAL SOLID WASTE LANDFILL STANDARDS

NSWMA has been a strong proponent of environmentally sound landfill standards and, in fact, developed a model regulation almost a year before EPA proposed its Subtitle D revisions. We have urged both EPA and the Office of Management and Budget to promulgate such standards as quickly as possible. We believe the standards you have proposed in S. 976 would make sanitary landfilling environmentally safe as well as assure public confidence in the technology. If the standards which EPA promulgates under the 1984 amendments prove to provide comparable environmental protection, as we expect they will, we suggest that the provisions of S. 976 be dropped. If the EPA regulations prove to be deficient in some respects, S. 976 should be used to correct those deficiencies. Appropriate transition language

should also be inserted so as to assure that critical landfill projects already in the pipeline can proceed to completion.

#### MUNICIPAL WASTE COMBUSTION (MWC) ASH

We support inclusion of provisions mandating EPA to develop regulations for managing ash under Subtitle D, but there are several areas where we believe the bill can be improved. First, S. 976 would impose more stringent requirements on ash disposal facilities than for landfills where municipal solid waste is disposed. These provisions reflect an assumption that combined ash (bottom and fly ash) from waste combustors presents a greater threat to human health and the environment than the disposal of municipal solid waste itself, and ignores a series of recent studies which suggests otherwise.

This research indicates that MWC combined ash can be safely disposed without testing in landfills with two liners. S. 976 currently allows disposal in this manner, provided that the facility is a "monofill" where only waste combustor ash is disposed. However, if untested combined ash is codisposed with municipal solid waste, the bill requires that the facility have an additional liner and leachate collection system. This proposed design would appear to exceed the standard for land disposal of hazardous waste and would impose unnecessary costs on local communities. This is a particular concern with regard to smaller communities served by smaller waste combustion facilities, which are less likely to produce a sufficient amount of MWC combined ash to clearly justify the development of an ash monofill at a landfill. We suggest that the requirement for an additional liner and leachate collection system is unnecessary and that it be deleted from the bill.

Second, S. 976 establishes separate minimum technical requirements for sanitary landfills where ash which has been tested and passed is disposed. We support the inclusion of provisions to allow communities the option to subject ash to a regulatory test prior to disposal in a sanitary landfill. However, since the scientific data indicate that codisposing combined ash and municipal solid waste presents no greater a threat to human health and the environment than disposing of municipal solid waste alone, we suggest that minimum technical standards for sanitary landfills where ash is disposed should be no more stringent than those defined in the previous section as necessary for sanitary landfills.

We support provisions in S. 976 that would direct EPA to establish regulations for ash reuse. We are concerned, however, that the bill may have the unintended effect of terminating important ongoing research and development into ash reuse if EPA fails to promulgate regulations within the 36 months specified in the statute. The bill would allow ash reuse after that date only if ash is treated and an extraction procedure test applied to the ash does not exceed Safe Drinking Water Act standards. We suggest that the bill be amended to provide that, whether or not EPA meets the deadline for promulgating regulations, ash reuse be allowed under the authority of a State permit or other prior approval from the State where such reuse occurs.

#### MEDICAL WASTE

We support the provisions of S. 976 to bring this special waste stream under an appropriate regulatory regime. Based on our members' operational experience, we would be pleased to work with EPA on specific standards for the storage, packaging, labelling, transport, and treatment of medical waste.

#### INDUSTRIAL WASTE

We support the provisions of S. 976 to bring the vast quantities of such wastes under appropriate regulatory regimes. We believe clarification is required as to the applicability of RCRA requirements to surface impoundments which may already be covered by National Pollutant Discharge Elimination System (NPDES) permits issued under the Clean Water Act.

#### RECYCLING OF SOLID WASTE

NSWMA is generally supportive of the intent of S. 976 with respect to toxics and source reduction and recycling. However, while our members have found that collecting impressive amounts of recyclables is relatively easy, they have also found that selling those same amounts of recyclables can be hard. Glutted markets for some recyclables and regional dislocations for some materials can make selling collected recyclables a major headache. We believe that S. 976 does not do enough to stimulate markets. Certainly the Federal procurement section is a step forward. Requiring the Federal Government and its contractors to buy products manufactured

from recycled materials goes a long way toward closing the loop. Allowing a ten percent price preference for these products is also a major step forward.

However, more needs to be done. The Federal Government needs to rethink many of its product specifications. While Section 304(c) of S. 976 requires the EPA to write new procurement guidelines for glass, ferrous metals, plastic products, used tires and other materials, we fear that EPA will not have sufficient resources to do the job and that actual procurement of these materials will lag without the relevant guidelines.

In addition, requiring EPA and the Department of Commerce to establish minimum recycled content standards or recovery rates for various materials seems essentially academic without penalties for failure to meet either content or recovery rate requirements. The requirement in Section 303(c) of S. 976 that EPA "shall report to Congress within a year of the enactment of S. 976 on mechanisms for implementing and enforcing commodity specific recycling requirements" implies that neither required recycling rates nor required minimum content rates will actually be required. Similarly, we note that the State plans require the setting of recycling goals and the identification of steps to create markets, but there are no penalties for States that fail to comply with their plans. The EPA should be able to enforce these plans if the States are not willing to follow through.

We also question whether prohibitions on the incineration or disposal of certain wastes, like tires and lead-acid batteries, will either cause these materials to be recycled or prevent their improper disposal unless there are other incentives. For example, some clarification is needed as to the responsibility of the generator in the proper management of waste. Enforcement is both inequitable and inadequate when it falls solely on the waste transporter or disposal manager. More thought should be given as to how to keep generators from introducing problem materials into the waste stream in the first place.

Finally, we believe the Packaging Advisory Board would be well served by the addition of a representative from the hauling/recycling industry who can consider the impact of the Board's proposals on the collection or recycling of individual materials.

#### INTERSTATE TRANSPORT OF MUNICIPAL SOLID WASTE

The industry's position on these provisions has been provided in previous testimony submitted June 18, 1991.

#### FINANCIAL ASSISTANCE

We support providing financial assistance to the States for purposes of preparing and implementing solid waste management plans. States bear significant responsibility for ensuring proper waste management. Support for their efforts is an appropriate expenditure of public funds.

#### SUMMARY

Because of the role the private waste services industry plays in the day-to-day management of waste throughout North America, we have a singular appreciation for the political, technical, and economic complexities surrounding the issue. We respect the thoughtful and comprehensive approach you have taken toward the problem, and we look forward to working with you to refine this legislation which would provide the framework for national solutions.

#### PREPARED STATEMENT OF DR. HENRY S. COLE

##### I. INTRODUCTION

Mr. Chairman, Members of the committee. My name is Dr. Henry S. Cole. I am the Science and Policy Director for Clean Water Action, a national environmental organization with over 750,000 members nationwide and offices in 15 States. With me today is Bob Collins, director of Clean Water Action's Solid Waste Programs.

Thank you for the opportunity to testify today on critical issues involving municipal solid waste that the committee will address during its consideration of amendments to the Resource Conservation and Recovery Act (RCRA).

Together with Greenpeace Action and the National Toxics Campaign, Clean Water Action coordinates the War on Waste, a national campaign with over 500 State and local organizations (see attached list) from 41 States who are fighting to redirect our nation's waste policies away from incinerators and landfills and toward



waste reduction and recycling. We are also working closely with a network of national environmental organizations to achieve these same goals.

Opposition to incinerators (and landfills) is not limited to communities selected for these facilities, for it is now recognized broadly by the public that the effects of disposal manifest themselves over great distances. For example, mercury emissions from growing populations of MSW incinerators can contaminate lakes, food chains, fish and people located hundreds of miles downwind. And garbage and incinerator ash are being transported over hundreds of miles to disposal units.

There is nearly universal recognition that a shift from disposal to reduction and recycling is a must. The question is, how do we get there from here? We believe that major changes are needed in the Resource Conservation and Recovery Act to accomplish this goal. Our recommendations to Congress are as follows:

1. Enact a moratorium on new MSW incinerators to last until the year 2000. This provision is included in HR 3253 introduced by Representative Kostmayer (D-PA) and cosponsored by 24 other House members thus far. This bill is supported by several national organizations including: Environmental Action, Environmental Defense Fund, Friends of the Earth, Greenpeace Action, National Council of Churches, National Toxics Campaign, Natural Resources Defense Council, Sierra Club, Southwest Research and Information Center, United Methodist Church, U.S. PIRG, and over 500 State and local groups across the country.

2. Require local governments to implement strong reduction and recycling programs before they are allowed to build or use new incinerators (after the year 2000).

3. Enact environmental requirements for (1) MSW incinerators, (2) MSW incinerator ash and ash landfills that are far stricter and more readily enforced than those proposed in S. 976. For example:

- incinerator ash should be managed as a hazardous waste with all of the strict protections of Subtitle C.

- fill all incinerator ash in containment systems that utilize two liners and leachate collection systems.

- Eliminate the complex system of waivers, exceptions, variances and delays that characterize ash management in the current bill.

4. Enact measures that increase the ability of communities to participate effectively in critical decisions on municipal waste. Delete language in S. 976, Section 402, that would enable States to override the opposition of local governments to the siting of disposal facilities.

5. Enact strong national programs aimed at reducing the volume and toxicity of packaging and other materials, at developing markets for recycled goods and at requiring governments to procure products and materials that contain recyclable materials and meet other environmental standards.

## II. THE CASE FOR A MORATORIUM ON MSW INCINERATORS

Incineration today is being pushed by the waste management industry as the answer to the nation's declining landfill capacity. Far from being a solution, incineration:

- imposes environmental costs which are unacceptably high,
  - ensures a continued reliance on landfills (to dispose of massive quantities of ash,
  - has grown increasingly expensive and financially risky to towns and cities,
  - represents a major barrier to the real solution—waste reduction and recycling,
- and
- destroys valuable resources and represents a net energy loss.

Given that more than 80 percent of the waste stream is either recyclable or non-combustible, incineration is an inappropriate technology for the management of municipal waste. Yet, incineration is the fastest growing disposal option in the U.S.—its share of the waste stream has grown from 4 percent to 14 percent during the 1980's.

A moratorium is a systematic and orderly method to bring about the transition to a reduction/recycling based solid waste system. Currently, landfilling accounts for about 73 percent of our garbage, incineration 14 percent, and recycling 13 percent.<sup>1</sup>

We believe that the Nation can readily attain and even surpass the goals of S. 976—50 percent recycling and 10 percent waste reduction—so long as incineration capacity is held at its current level. This approach also allows a significant decline in the amount of waste landfilled.<sup>2</sup>

Remaining landfill and incinerator capacity should be used to manage disposal-bound waste in the most appropriate and environmentally benign manner. For example, existing incinerator capacity should be used for the relatively small amount of combustible waste that is non-recyclable and non-toxic.

## A. THE ENVIRONMENTAL COSTS OF INCINERATION

Many harmful metals and organic chemicals are components of products and packages which make up municipal waste. Mercury is found in household batteries, fluorescent light bulbs, some latex paint, and mirrors. Lead is used as solder in steel cans and in electronic components, batteries, paint pigments, ceramic glazes, and plastics. Cadmium is found in metal coatings and platings, rechargeable batteries, and in plastics as a pigment and stabilizer.

Burning garbage releases these, and other toxic substances which are bound up in such common products as paper, plastics, and electronic components. Up to 27 different heavy metals and hundreds of toxic organic compounds, including dioxins and furans, are released and sent out the incinerator stack to the air or captured by pollution controls and concentrated in the ash. MSW incinerators increase, rather than reduce the environmental risks associated with waste management.

*MSW Incinerator Ash*

MSW incinerators transform trash into toxic ash, which must be disposed. The incineration of 100 tons of garbage generates about 30 tons of ash. The toxicity of incinerator ash is well established—both fly and combined ash contain sufficient concentrations of lead, cadmium, and other toxic metals to qualify as a hazardous waste. Public concern has centered on the dangers of lead, cadmium, and dioxin—all found in MSW ash.

- Lead exposure to infants and children in even trace quantities can impair mental development and has been linked to learning disabilities and lowered IQ scores. Lead is a probable carcinogen and may contribute to increased blood pressure in adults.

- Cadmium is not only a probable carcinogen, but accumulates in the food chain. Cadmium can build up, and be retained, in humans (a process that can take place over 30 years), and can cause severe damage to kidneys. Exposure to cadmium may cause cardiovascular damage and bone changes.

- Dioxins and furans, some of the most deadly compounds known, are regularly found in incinerator ash.

The large volume of toxic ash produced by an incinerator is difficult and expensive to dispose of safely. A 2000 ton per day (tpd) massburn incinerator generates about 500 tons of ash a day; in 20 years this amounts to about 3.5 million tons, with thousands of tons of toxic metals.

Depending on concentrations, the total amount of lead and cadmium in ash can vary greatly. This table shows the amount of lead and cadmium in ash, by day, by year, and for the total (20 year) expected life of an incinerator. Note that ash with the highest lead concentration in the EPA study would contain over three tons of lead each day. After 20 years of operation, that incinerator could generate more than 3.5 million tons of ash containing over 27,000 tons of lead.

Table 1.—Lead and Cadmium in MSW Incinerator Ash

	Daily	One year	20 years
Ave. Lead Concentration			
1,374 ppm.....	1,374 lbs	251 tons	5,020 tons
7,474 ppm.....	7,474 lbs	1,364 tons	27,280 tons
Ave. Cadmium Concentration			
32 ppm.....	32 lbs	6 tons	120 tons
77 ppm.....	77 lbs	14 tons	280 tons

Note: Assumes 4 to 1 ratio for trash burned to ash generated—a 2000 tpd incinerator will produce 500 tons of ash per day. Source: Derived from EPA, "Characterization of Municipal Waste Combustion Ash, Ash Extracts, and Leachates," March 1990.

All landfills eventually leak. The lead, cadmium, and other metals regularly found in ash are persistent toxic substances—they remain toxic permanently.

The EPA has stated that one or more of the engineered components (liners, leachate collection system, cover) will fail for reasons ranging from the chemical nature of the waste, to the erosive forces of nature.<sup>3</sup> Although Federal regulations require that landfills be monitored and maintained for 30 years after closure, the substances in the ash, such as lead and cadmium will retain all of their toxicity long after 30 years. In fact, the ash will be toxic forever, long after the statutory requirement for post closure care has expired—and long after the containment has failed.

Yet, no State requires ash landfill operators to establish post closure care for longer than 30 years. Furthermore, there is no guarantee that an ash landfill (or any indeed any landfill) will be able to contain the ash, or its leachate for even those few decades.

The danger to groundwater from ash landfills is illustrated by a Bellinham, Washington monofill. EPA tests conducted in 1988 on nearby groundwater wells found contamination from several heavy metals. Levels of cadmium in the groundwater averaged 70 times drinking water standards.

Today's ash landfills may become tomorrow's Superfund sites. Who will be liable? Who will clean them up?

#### *Air Emissions*

Citing the dangers of air pollution from ozone precursors, dioxin and heavy metals especially lead, the American Public Health Association has called for a national policy "rooted in resource conservation and pollution prevention". The APHA advocates recycling and composting 80 percent of the waste stream, and calls for a ban on the construction of garbage incinerators in all non-attainment areas.<sup>4</sup>

During the combustion of municipal solid waste, an incinerator will emit from its stack 1) acid gases such as hydrogen chloride and sulfur dioxide; 2) nitrogen oxides (NOx) and carbon monoxide; 3) heavy metals including mercury, lead and cadmium, and 4) complex organic compounds such as dioxins and furans. The pollution control technology recommended by EPA to remove these is unreliable.<sup>5</sup> Heavy metals, lead, cadmium, and especially mercury are easily volatilized by the combustion process and are difficult to remove from incinerator flue gases. (Of course, those substances which the scrubbers or filters do remove, add to the toxicity of the ash.)

#### *Incinerators and Mercury*

In September 1990, Clean Water Action released a major report on mercury contamination from MSW incinerators (Mercury Rising). A recent *New York Times* feature further documents the severity and nature of the problem. A growing body of evidence is mounting around the following findings:

1. Mercury is contaminating thousands of lakes in many parts of the nation. The levels of mercury already present in lakes and aquatic food chains pose a serious threat to public health through fish consumption.

2. Compelling evidence from Europe and North America shows that inland lakes are being contaminated by wet and dry deposition of atmospheric mercury in the lakes and in surrounding watersheds. Coal burning power plants and MSW incinerators represent two of the largest sources of atmospheric mercury. MSW incinerators are the most rapidly growing source.

3. Mercury is subject to large scale biomagnification in the aquatic foodchains of freshwater lakes. An official with the Wisconsin Department of Natural Resources summed up the problem succinctly: "Mercury levels in water as low as 1 ng/L can lead to levels in fish that are high enough to trigger fish consumption advisories." Lakes tend to serve as traps for the mercury since the mercury doesn't break down and is removed only slowly from ecologically active portions of lake ecosystems. Continued releases are likely to increase the level of mercury in fish.

4. Hundreds of fish consumption advisories for mercury, covering thousands of lakes are in effect in at least 20 States. Millions of people catch and eat fish in these States.

- In Michigan, lake fish with mercury concentrations of 2-4 ppm have been found. As a result, a general fish consumption advisory is in effect for all 11,000 lakes in the State.

- In Minnesota, mercury levels in lakes have been rising 2-5 percent per year. The State has issued 250 fish advisories for mercury. The U.S. Forest Service has issued its own health advisory for all 2000 of its lakes in the Superior National Forest.

- In Florida, freshwater fish in 65 percent of the lakes and rivers tested through July 1990, had sufficient mercury (above 0.5 ppm) for the State to issue health advisories. Levels of mercury found in Florida panthers (above 100 ppm) were sufficiently high to cause death and serious illness. Recently, the last two female panthers in the Everglades were found dead, with very high levels of mercury.<sup>6</sup>

- Throughout New England mercury contamination of fish is a growing trend.<sup>7</sup> Mercury, a potent neurotoxin, is especially dangerous to the unborn child; like lead, it bypasses the placental barrier and readily accumulates in the brain of the fetus. Typical fish consumption advisories for mercury warn people to restrict their fish intake to once a month or week (depending on concentration). These advisories generally warn young children, woman who are pregnant, nursing, or planning to

become pregnant not to eat any fish. Native Americans and other populations that depend on fish as a major source of protein are particularly vulnerable.

MSW incinerators represent a large and the most rapidly growing source of mercury emissions in the nation. In fact the worst possible disposal route for any waste containing mercury is incineration: including MSW waste, medical waste, industrial waste and hazardous waste. Mercury vapors are extremely difficult to control.

Some reduction in emissions may result from the toxic use reduction program in S. 976 and from the requirement for an eventual mercury emission standard for incinerators. However, it is important to recognize that these measures in themselves will not solve the problem. First, many products including paints, electrical equipment, pigments, certain plastics, thermometers and many other products contain mercury. Second, more effective air pollution control equipment (e. g. wet scrubbers) merely transfers the mercury problem to ash. Some mercury offgasses from ash during storage—the rest will greatly increase the toxicity of the ash.

In the short term, a moratorium on new incinerator capacity is essential to curb the growth in mercury emissions. Reducing the flow of mercury into the atmosphere will require not only a reduced dependence on burning, but on a reduction in the quantity of mercury used in a variety of products.

#### B. RECYCLING VS. INCINERATION—THE NATION MUST CHOOSE!

RCRA reauthorization represents a critical watershed. The moratorium issue must be addressed with a great deal of urgency. Towns and cities that opt for incinerators are locked into the decision for 20 or 30 years, regardless of the advances in recycling (and composting) technologies, markets and systems.

Incinerators are dependent on many of the same materials that make recycling worthwhile: e. g. paper, cardboard (materials for which high minimum recovery rates are established in Section 302 of S. 976), and plastic. According to *Garbage Magazine*: "Efficient recycling of high energy-yielding garbage undercuts revenue for incinerators. Indeed, in Southeast Massachusetts, the 1900 ton-a-day incinerator is a big reason why recycling is almost nonexistent in the 32 communities served by Semass."<sup>8</sup>

Similarly massive investments in incineration will consume limited local capital that could be invested in recycling with less risk. There is now mounting evidence that communities that build incinerators are struggling to meet their financial commitments.

Considerable progress on recycling is being made in communities across the nation. Well conceived recycling programs can accomplish significant recycling rates very rapidly. For example, the people of Seattle said "no" to incineration and instead invested limited capital in an ambitious recycling program. Seattle now diverts over one third of its waste stream from landfills through recycling.<sup>9</sup>

In Takoma Park, Maryland, a program of curbside separation, recycling and composting has achieved a diversion rate of about 36 percent in two short years. This September, recycling of some plastics (PET and HDPE) and mixed paper will be added to the program which now processes newspaper, glass, aluminum, tin cans and corrugated cardboard, appliances and yard waste for composting. Within a year the diversion rate is expected to reach 45 percent, with avoided landfill costs reaching several hundred thousand dollars.<sup>10</sup>

The problem is that a large 1800 ton per day incinerator proposed for Dickerson, Maryland is drawing closer to reality. Its construction will ensure that other towns in the region will not be able to follow Takoma Park's lead. The choice is clear in the backyard of our nation's capital. It is the same choice that will be faced by local communities across the nation.

We doubt seriously whether the goals of S. 976, 50 percent recycling and 10 percent waste reduction by 2000, can be met if the Nation invests heavily in incineration. For example, the waste industry plans to double incineration capacity by the year 2000,<sup>11</sup> and President Bush has proposed to increase incineration seven-fold by 2010 as part of his Energy Strategy.<sup>12</sup> Proceeding along this path will surely be the death knell to serious recycling and will have monumental economic, environmental and resource costs.

#### C. ECONOMIC COSTS AND FINANCIAL RISKS OF MSW INCINERATION

The Environmental Defense Fund published a study last year that makes detailed cost comparisons between incineration and recycling for a number of U.S. cities.<sup>13</sup> Among the findings:

- *Seattle*: Recycling rates up to 78 percent are feasible in Seattle at less expense on a lifecycle, cost-per-ton basis than any level of incineration.

● *New York City*: Life cycle recycling costs would be from 20-60 percent less expensive per ton than incineration.

● *North Hempstead LI*: recycling: \$95 per ton; incineration \$122 per ton.

In the past few months, the news has been filled with stories that incinerators are posing severe financial hardships on towns that selected burning.

● *Tuscaloosa, Alabama*. Local officials sued Consumat Systems, Inc. for \$20 million after the plant lost money during its first 3 years of operation. Down there they call it the Tuscaloosa Turkey.

● *Warren County, NJ*. Ash disposal costs sky-rocketed to \$250 per ton when the ash repeatedly failed the toxicity test and had to be shipped to a hazardous waste facility. The county had to pay \$1.8 million to the incinerator operator because a growing recycling program caused a trash short-fall (a growing trend).

● *Columbus, Ohio*. \$93 million of subsidies, in a six years period, were needed to keep the city's incinerator operating. Funds planned for hospitals, roads and schools are being diverted to pay for incinerator bills.

● *Okahumpka, Florida*: \$79 million state-of-the-art incinerator. Lake County paid construction and operating costs and local taxes for an incinerator that Ogden-Martin actually owns. The County Chairman, deemed the 1988 agreement "a hell of a sweet-heart deal." Now there is not enough garbage to operate the plant in the black, and a number of officials believe it would be cheaper to abandon the facility and pay off the debt rather than to pay on-going operating costs. Some Lake Co. cities angered by rising fees are compounding the garbage crisis by stepping up their recycling efforts.<sup>14</sup>

● *Minnesota*. Several counties are having difficulty in producing enough garbage to meet minimal amounts specified in contracts with Northern States Power which operates the incinerators. The reason is increased recycling. A projected shortfall of 40,000 tons will force counties to pay an additional fee of \$300,000. More significantly, public officials find themselves in a position where they may have to reject requests for composting and recycling plans. In the words of one official, "Supporting curb-side recycling can and will get us into default on the NSP contract."<sup>15</sup>

These examples point to an emerging trend in towns that have opted for incinerators. Rising costs force a community to spend general revenues—and in some cases the problem is aggravated by shortfalls in trash due to the growing success of recycling.

#### D. INCINERATORS DESTROY RESOURCES AND WASTE ENERGY

More energy is conserved through reuse and recycling than is generated by incineration. The use of virgin resources such as minerals, petroleum, or timber to manufacture new goods requires the expenditure of energy for extraction, transportation, and refining or processing. Recycling saves much of the energy required for the extraction and processing. The approximate energy equivalent of 17 million barrels of oil is generated by incinerating MSW at current levels (14 percent). However, over 100 million barrels of oil are conserved by recycling at current levels. As the number and type of materials which are recycled expand to encompass 50 percent and more of the total waste stream, the realized energy savings from recycling will continue to grow. These figures were derived from an extensive energy analysis conducted by NRDC.

#### III. INCINERATOR ASH: S. 976 IS INADEQUATE

This section provides our specific comments on S. 976's requirements for the disposal of MSW incinerator ash and MSW waste.

Regulation of ash is a critical issue. Existing incinerators produce more than 5 millions tons of ash per year. This ash contains high levels of heavy metals that do not break down over time. On the other hand, liners and other containment devices are vulnerable to the destructive forces that inevitably will lead to releases. Even the best liners eventually leak and leachate collection systems become clogged.

#### A. RECOMMENDED ASH MANAGEMENT SYSTEM

Two principles should apply: (1) the generation of this type of waste should be avoided (2) the waste should be disposed only under the most protective conditions and surveillance.

We believe that these conditions are best met by regulating incinerator ash as a hazardous waste under Subtitle C of RCRA. Recent studies by incinerator operators, State regulatory agencies and EPA have shown that incinerator ash leaches sufficient quantities of toxic chemicals to qualify as hazardous waste under EPA's test procedures.<sup>16</sup> We believe that a proper protocol, one based on all exposure routes

and on the toxic composition of the ash, would show that all incinerator ash would qualify as a hazardous waste.

Subtitle C classification ensures that the ash is manifested—i.e., tracked so that we know exactly where shipments of ash are going; this measure is necessary to stem illegal dumping or co-disposal.

In addition we believe that specific technical requirements are appropriate for the management of incinerator ash. These requirements are summarized as follows:

1. All MSW ash shall be disposed of separately in monofills.
2. Monofills should include: a double liner system that is designed, operated and constructed of materials to prevent the release of contaminants. The double liner system located at the bottom of the cell should include:
  - drainage material with a primary leachate collection-removal system,
  - an upper flexible membrane liner,
  - drainage material and a secondary leachate collection removal system which serves as a leak detection system, and
  - a composite liner consisting of an upper flexible membrane liner underlain by three feet of compacted clay.

The advantages of this system are described in detail in several publications and in testimony by Richard Denison of the Environmental Defense Fund.<sup>17</sup> In summary:

- The double liner system provides redundancy; reliance on two barriers reduces the potential for leaks.
- The top leachate collection system removes leachate before it penetrates through the first liner and avoids pressure buildup on this liner.
- The second leachate system serves as a leak detection system for the first liner and collects what ever leaks through.
- The system allows for an early detection of the leak (before groundwater is contaminated) and for assessing the magnitude of the leak and the necessary response.

#### B. S. 976: ASH REGULATIONS ARE COMPLEX AND INEFFECTIVE

Rather than the simple, uniformly protective approach that we recommend, S. 976 imposes a complex system of disposal options. With this system it will be highly unlikely that ash will be managed in a way that will protect public health and the environment. A number of major weaknesses are outlined below:

- The language in S. 976 simply requires EPA to issue regulations for "proper closure." There is no assurance that the closure will even require a composite cover comprised of a clay and plastic liner in order to prevent precipitation from infiltrating the landfill and causing toxic substances to leak from the bottom. In contrast, EPA regulations require composite covers for the closure of (Subtitle C) hazardous waste landfills.<sup>18</sup>

- The 1984 amendments to RCRA require all hazardous waste landfills to have leak detection systems to detect defects in the lining of a landfill before the toxic waste can seep into the groundwater. (A leak detection system is an integral part of a containment system that includes two rather than a single liner.) This requirement was designed to prevent the contamination of drinking water supplies by providing for early detection and correction. However, under a number of disposal options allowable under S. 976, ash can be disposed in a landfill without a leak detection system. In such cases, the only way to know if the landfill is leaking is after it contaminates the groundwater.

There are a number of additional glaring loopholes:

- For two and one-half years after enactment, incinerator ash may be disposed of in unlined landfills;
- The proposal allows for toxic ash to be co-disposed with garbage despite the increased potential for leaching of hazardous constituents;
- For six years, toxic ash can be co-disposed in a sanitary landfill with only one liner;
- For three years, States can allow ash utilization without any national standards designed to protect public health;
- Many of the allowable disposal options will not require double liners or leak detection.

In addition, S. 976 provides for a number of exceptions to the already weak design standards. For example, States can approve alternative designs if the owner/operator can convince the State that the alternative will be equally protective. While some flexibility may be necessary, this measure opens the door for abuse by the operators and will place an additional on State regulators.

The numerous disposal options and decision points will impose enormous resource requirements on State agencies that are already stretched to the limits. There is

little doubt that the waste management industry will attempt to drive the system toward the least protective and least expensive options at every turn. This approach may benefit consulting firms (and perhaps lawyers) but will prevent effective enforcement of protective rules.

#### D. ASH UTILIZATION—A DANGEROUS GAMBLE

Some waste management companies are considering disposing of ash in materials such as asphalt aggregate or in construction blocks. The heavy metals present in ash (lead, cadmium, mercury) are persistent, do not break down in the environment, and accumulate in the foodchain. Ash utilization places these toxics in proximity to the public, while vastly increasing the difficulty in containment or cleanup.

There are no assurances that asphalt aggregate or construction blocks made of ash can withstand the erosive properties of nature for even a short period. Weathering, freeze-thaw cycles and, in the case of roadways, abrasion from traffic, all work to create fine dust particles (containing toxic metals) which can be transported by wind or released into water. All construction material eventually becomes construction debris. Once released, the heavy metals in the ash can endanger public health through exposure by inhalation (air), soil (dermal contact), foodchain or ground or surface water.

More and more States are considering ash use for construction or road repair purposes as a relatively cheap, unregulated method of disposal. In Minnesota, Clean Water Action working with community organizations have been able to delay plans to use ash aggregate on the wearing surface of roads. We had to point out to the State Pollution Control Agency that roads tend to break down in Minnesota. We had to remind the Agency that roadway materials are worn down into fine particles—street dust that would be enriched with lead and other toxic metals contained in incinerator ash and that ingestion of street dust is a major source of lead poisoning in children and that evidence links the mental impairment with exceedingly low exposures. A U.S. Public Health Service 1988 Study determined that a significant percentage of children in the Minneapolis area and many other parts of the Nation already have too much lead in their blood. Almost 14 million children, 6 months to 5 years old, were projected to have unsafe levels (more than 15 micrograms per deciliter) in their blood.<sup>15</sup>

There are currently no Federal standards regulating the kinds of application, treatment, or characteristics (stability, durability, etc.). Despite this void, many States are pressing ahead with plans to use ash for construction or road repair. The proposed Minneapolis area project, for example, represents the highest risk type of project: the aggregate would be made with fly ash as well as bottom ash and the aggregate would be incorporated into the upper (wearing) surface of the road. Other States with ash projects include Maryland, New Jersey, Massachusetts, and New York. Virginia has recently enacted legislation that encourages ash use by counting it toward recycling goals.

Under S. 976, States could continue to allow any and all projects for a maximum of three years until EPA develops standards. Given the toxicity of ash and the strong probability of exposure to dangerous substances that will result we believe that ash use should be banned outright.

#### IV. MINIMUM TECHNICAL REQUIREMENTS FOR MSW LANDFILLS

There are about 6400 municipal landfills currently in operation. According to a recent EPA study:<sup>20</sup>

- Leachate from MSW landfills has many of the same constituents that are found in hazardous waste landfill leachate; those constituents occur at similar concentrations in leachates from MSW landfills and hazardous waste landfills.

- Almost 40 percent of existing MSW landfills are operating without State permits; 50 percent of existing MSW landfills are inspected once a year or less.

- Only one out of every six existing MSW landfills is lined, and only one out of twenty has a leachate collection system.

- Nationally, only about 25 percent of existing MSW landfills currently have the capability to monitor groundwater; of these, 36 percent have documented deficiencies in their groundwater monitoring programs.

In our view, strict Federal minimum design standards will be required for all new or expanded disposal facilities. These standards for sanitary landfills should require essentially the same basic design as we have recommended for ash landfills: including double liners with leachate collection, leak detection units and mandatory state-of-the-art covers for closed landfills.

In contrast, S. 976 requires a lower level of protection. For example, only one (composite) liner and one leachate collection system is required for MSW landfills. Such landfills are expensive cleanups waiting to happen: there is no redundancy and no way to detect or repair leaks until the groundwater is already contaminated. Moreover, the bill doesn't require a state-of-the-art composite liner for the cover when a landfill is closed.

As in the sections of the bill that deal with ash management, the requirements contain exceptions, alternate design options and variances. Rather than uniform protection, the large degree of discretion in the bill will encourage operators to cut corners and force agencies to expend their resources evaluating industry requests. Several of the exceptions are described below:

- The bill allows a variance from groundwater monitoring requirements if the operator demonstrates to the satisfaction of the agency that there is no potential for migration from the landfill to the uppermost aquifer. The terms of this variance are overly broad and will encourage abuse. Such variances should only be allowed for sites with extremely deep water tables and scarce rainfall. This variance is particularly dangerous given the lack of effective leak detection in the minimum landfill requirements.

- The siting provision prohibiting landfills within a 100 year floodplain allows an exception if engineering measures are included to prevent washout and other problems. Such exceptions are unacceptable since the engineering methods can not be expected to protect water quality from floods over many centuries. Rivers are known to change course over long time periods.

These and other deficiencies are likely to have an adverse effect on the economics of waste management decisions. Requirements that fall short of best technologies keep the cost of land disposal low (costs are borne by the public and environment) and serve as a disincentive to waste reduction and recycling.

#### V. SUMMARY AND CONCLUSIONS

Although there are some positive aspects of S. 976, we believe the bill, in its current form, will not accomplish the major shift from disposal to reduction and recycling that the Nation needs.

1. Although the bill establishes national recycling goals and minimum recovery rates for specific materials, there is little in the bill to ensure that these goals are met.

2. The bill does little to discourage incineration, a principal barrier to recycling-based systems.

3. We are adamantly opposed to a provision of the bill that gives States the power to override local opposition to waste management facilities in the name of "capacity assurance."

4. The bill fails to treat incinerator ash as a hazardous waste whose generation should be avoided to the maximum extent possible.

5. The regulation of land disposal of ash and solid waste in S. 976:

- fails to adequately protect public health and the environment,
- fails to require best available technical measures for solid waste and incinerator ash landfills, and

- institutes a complex system of ash regulation replete with nonprotective technical requirements, variances, test-out provisions, alternative designs and delays; for example the bill would allow incinerator ash including fly ash to be disposed in unlined and potentially leaking municipal landfills for up to two and onehalf years after enactment.

We look forward to working with the Senate Environment Committee in its efforts to strengthen the Resource Conservation and Recovery Act.

#### NOTES:

1. U.S. EPA, *Characterization of Municipal Solid Waste in the United States: 1990 Update* (June 1990)
2. Collins, R., *The Case for a Moratorium on Garbage Incinerators*. Clean Water Action, September, 1991.
3. *Federal Register*, Feb. 5, 1981 [pg. 11128], "Manmade permeable materials that might be used for liners or covert (e.g., membrane liners or other materials) are subject to eventual deterioration, and although this might not occur for 10, 20 or more years, it eventually occurs and, when it does, leachate will migrate out of the facility."

*Federal Register*, July 26, 1982 [pg. 32284], "A liner is a barrier technology that prevents or greatly restricts migration of liquids into the ground. No liner, howev-



er, can keep all liquids out of the ground for all time. Eventually liners will either degrade, tear, or crack and will allow liquids to migrate out of the unit."

From the same page, "Some have argued that liners are devices that provide a perpetual seal against any migration from a waste management unit. EPA has concluded that the more reasonable assumption, based on what is known about the pressures placed on liners over time, is that any liner will begin to leak eventually."

4. American Journal of Public Health, Policy Statements, Feb 1990
5. U.S. EPA, Proposed Rule, "Standards of Performance for New Stationary Sources: Municipal Waste Combustors, November 1989.
6. *Washington Post*, "Last Known Female Panthers In Everglades Found Dead," Associated Press, August 8, 1991.
7. "Hard Rain," Providence, R.I. Sunday Journal, 1 1/12/89
8. *Garbage*, March/April 1991.
9. *Beyond 40 Percent: Record-Setting Recycling and Composting Programs*, Institute for Local Self Reliance, August 1990.
10. Daryl Braitwaite, Director Takoma Park Recycling Program, Department of Public Works, personal communication, September 6, 1991.
11. National Solid Wastes Management Association, *Special Report: Recycling in the States, Mid-Year Update 1990*.
12. *National Energy Strategy*, First Edition 1991/1992. Current WTE plants generate 0.3 quads of energy annually. Under the NES proposal, WTE incinerators would generate up to 2.1 quads of energy for electricity by the year 2010.
13. Environmental Defense Fund, *Recycling and Incineration*
14. "Costs Too High; County May Abandon Flawless New Plant," Associated Press, Sept 3, 1991.
15. "County officials, NSP hustling to fill garbage gap" August 30, St. Paul *Pioneer Press*.
16. See for example, *Characterization of Municipal Waste Combustion Ash, Ash Extracts, and Leachates* EPA/Coalition on Resource Recovery and the Environment, March 1990.
17. Denison, Richard A. and Ruston, John, *Recycling & Incineration. Evaluating the Choices*, EDF, 1990.
18. 47 Federal Register at 32285, July 26, 1982.
19. *The Nature and Extent of Lead Poisoning in Children in the United States: A Report to Congress*, Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Service, July 1988.
20. Excerpted from an EDF summary of EPA's Census of State and Territorial Subtitle D Non-Hazardous Waste Programs.

#### PREPARED STATEMENT OF PAUL VARELLO

I am Paul Varello, Chairman and Chief Executive Officer of American Ref-Fuel Company. I appreciate the opportunity to testify before the subcommittee today on S. 976, the Resource Conservation and Recovery Act Amendments of 1991. I am testifying today on behalf of the Institute of Resource Recovery (IRR). The IRR is comprised of firms that design, build and operate facilities to recover energy and materials from trash while reducing its volume through controlled combustion. The IRR is a component of the National Solid Wastes Management Association, a trade association with over 2500 members of the private waste services industry.

Mr. Chairman, waste-to-energy plays an important role in the management of America's solid waste for many reasons. It serves the growing solid waste disposal needs of millions of Americans and can significantly prolong the life of landfills because combustion typically reduces waste volume by up to 90 percent. It produces a stable residue that can be safely disposed in landfills or, perhaps, recycled or reused for daily cover at landfills or other beneficial purposes. It produces the BTU equivalent of over 45 million barrels of oil—the average annual pre-war U.S. imports from Kuwait. In short, waste-to-energy provides a valuable solution to many of our nation's needs.

Nevertheless, some critics continue to oppose waste-to-energy facilities. Why? They say it impedes recycling. Yet the evidence is clear, not only in the U.S. but in land- and resource-poor Japan, that recycling and energy recovery work hand in glove. IRR members have strongly embraced recycling. Indeed, the communities we serve increasingly have adopted comprehensive recycling programs. And, to the extent that community recycling programs remove glass, cans and other non-com-

bustibles from the waste stream before they ever reach our gates, it actually improves the operation of our facilities.

Some critics say the ash is "toxic." Yet, as I will discuss at length later, such characterizations rely on outdated and unsuitable laboratory tests and are refuted by impressive field data from landfills that contain ash. Simply stated, ash is not toxic.

It also is said that the air emissions are a problem. Yet Congress, in the just completed Clean Air Act Amendments of 1990, imposed quite stringent air emission standards on these facilities—standards unsurpassed for any other air emission source.

Mr. Chairman, we commend you and the members of the subcommittee for your efforts to establish a comprehensive Federal program to guide the management of solid wastes within the United States into the 21st century. We appreciate in particular your leadership with regard to waste combustion. Local governments look to the Federal Government for standards which protect the public health and environment. Many States, not content to wait for RCRA reauthorization, have begun enacting ash guidelines, either by statute or regulation. It is now time for Federal legislation to provide needed uniformity and guidance for the rest of the nation. The absence of these standards continues to be an impediment to many communities seeking to develop waste-to-energy facilities.

In this context, the IRR strongly supports the inclusion in S. 976 of provisions to mandate that the U.S. Environmental Protection Agency develop regulations under Subtitle D of the Resource Conservation and Recovery Act (RCRA) to address the management, disposal and reuse of municipal waste combustion ash. A comprehensive Federal policy is needed to provide the clarity and certainty for communities with existing waste combustion facilities, as well as for communities that are considering waste combustion as part of an integrated strategy for solid waste management.

When the debate over ash and its characteristics developed in 1987, the IRR took the following position: while we did not believe, based on laboratory tests, that ash needed special management practices, in deference to public opinion we supported disposal practices beyond those required for municipal solid waste. This was largely based on the relative absence of field data.

Within the past several years, however, field data has convinced us that the public is actually disserved by this position. We now see the confirmation of our belief that ash does not make landfill leachate worse—indeed, it appears to improve it. Thus, overregulation of ash merely drives up the cost of waste-to-energy without accomplishing anything for the environment or protecting public health.

The specific views and suggestions of the IRR with regard to S. 976 are set forth below. Before discussing the legislation, however, I would like to share with the subcommittee the findings of the scientific research to which I just referred. This impressive and growing body of scientific knowledge about waste combustion is the basis for many of our comments on the legislation.

#### RECENT RESEARCH ON MUNICIPAL WASTE COMBUSTOR ASH

Significant scientific research has been conducted over the past five years concerning municipal waste combustor ("MWC") ash. Research in both the laboratory and in the actual environment has significantly expanded the understanding of the behavior of ash. These new data provide a body of scientific information sufficient to establish a comprehensive regulatory program for the management and disposal of ash.

Attached to my testimony is a summary description of several important, recent, government-supported studies, as well as test results analyzing ash samples from four modern facilities. (Attachment 1). I have provided to the subcommittee complete copies of each of these studies and of the test results which are cited in the attached summary.

The studies and test results demonstrate several critical points with regard to the management and disposal of municipal waste combustor ash. First, the scientific data demonstrate that disposing of municipal waste combustor ash in a landfill meeting the relevant technical standards presents no significant risk to human health and the environment. I make this statement with confidence because it is no longer necessary to rely on laboratory extraction procedure tests to try to predict how municipal waste combustor ash will behave when disposed in a landfill. Several of the recent studies have provided excellent data on what happens at actual landfills.

The results of one of the most comprehensive of these studies, a study on the leachates of five ash landfills conducted by the Coalition on Resource Recovery and the Environment (CORRE) and the Office of Solid Waste and Emergency Response of

the U.S. Environmental Protection Agency, are so significant that it is worth citing one statement from the summary.

*[T]he data from this study indicate that although the leachates are not used for drinking purposes, they are close to being acceptable for drinking water use, as far as the metals are concerned. p. ES-9. (emphasis added).*

The only substances for which the leachates from these landfills exceeded Secondary Safe Drinking Water Act standards were salts. The leachates are very much like sea water. This study, and other studies of ash landfills, show that a modern landfill, meeting appropriate technical requirements, is more than adequate to assure the protection of human health and the environment.

Second, the studies and test results make clear that municipal waste combustor ash is not a "hazardous waste." The California Department of Health Services, following a six-month study of the ash from one facility, determined it to be "nonhazardous" under California law, noting that the ash possesses characteristics "rendering it insignificant as a hazard to human health and safety, livestock, and wildlife. . ." In addition, I have provided the subcommittee with the results of laboratory extraction tests from four facilities showing that municipal waste combustor ash from modern facilities (i.e. facilities with scrubbers) consistently passes regulatory criteria based on results from laboratory leachate extraction procedures. This is not to say that no sample of ash from any facility has ever not met the relevant criteria. Nor do I mean to suggest by providing these data that any laboratory extraction tests (e.g., the EP Toxicity Test, the Toxicity Characteristic Leaching Procedure) are at all accurate in predicting the behavior of ash when disposed in landfills. Another finding of the CORRE study cited above was that such tests "significantly overstate" the potential of hazardous elements leaching from ash. Rather, I cite the test results only to show that it is grossly inaccurate to assert, as some opponents of waste-to-energy assert, that ash "consistently fails" these tests.

Finally, the studies have found that the composition of municipal waste combustor ash is changing as modern air pollution control technology is coming into use at waste combustion facilities. The addition of lime residues from scrubbers or lime injectors used at waste-to-energy facilities to control acidic gases emissions is changing the composition of the ash, and in particular the composition of the fly ash. The lime increases the extent to which the ash in a landfill hardens to a density similar to concrete after a few weeks. When the ash is co-disposed with municipal solid waste, the lime and ash neutralize the acids produced from the biodegrading waste, thereby reducing the potential for pollutants to leach. In this case, taking measures to address environmental concerns related to air emissions complements efforts to manage the ash from waste-to-energy facilities in an environmentally protective manner.

As noted, the new scientific data are changing our understanding of the characteristics of municipal waste combustion ash, and how it can best be managed and disposed. With this as a background, I would like to discuss the IRR's views and suggestions with regard to the provisions of S. 976 which most directly affect waste combustion. I also have attached to my testimony a list of IRR's suggested technical changes to the bill. (Attachment 2).

#### ASH DISPOSAL REQUIREMENTS

The IRR supports the fundamental policies which provide the basis for the ash management and disposal provisions of S. 976. These provisions are generally consistent with the Ash Management Policies of the IRR, a copy of which is attached to my testimony (Attachment 3), as well as the recent scientific data discussed above. In our view, the critical elements of these policies are that:

- Municipal waste combustor ash is regulated pursuant to Subtitle D of RCRA, and in a manner which is consistent with the regulation of municipal solid waste. The legislation continues to recognize the strong policy and scientific reasons for regulating the management and disposal of municipal solid waste within a single regulatory program.

- Municipal waste combustor ash may be disposed without testing in facilities meeting specified minimum standards. As discussed above, significant scientific research has been conducted on the characteristics of this ash and how it behaves when disposed. These data provide a sufficient basis on which to establish technical criteria for landfills where waste combustion ash is disposed. There is no reason to require that ash from each facility be subject to regulatory testing.

- EPA is directed to establish regulatory standards regarding the reuse and recycling of ash. Significant research is currently underway to develop techniques for the beneficial use of ash from municipal waste combustors. It is appropriate that

the EPA establish clear regulatory guidance to assure the continued protection of human health and the environment in conjunction with such reuse.

There are, however, several areas where we believe the ash management and disposal provisions of S. 976 could be improved. Specifically, several provisions in S. 976 would impose more stringent requirements on landfills where ash and municipal solid waste is disposed than for landfills where only municipal solid waste is disposed. These provisions reflect the old view that the disposal of combined ash (bottom and fly ash) from waste combustors presents a greater threat to human health and the environment than the disposal of municipal solid waste. A series of recent studies suggests otherwise.

The research indicates that combined ash can be safely disposed, without testing, in landfills with a composite liner—a liner system which actually is composed of two liners, one synthetic and the other a clay barrier. S. 976 currently allows disposal in this manner, provided that the facility is a "monofill" where only waste combustor ash is disposed. However, if untested combined ash is codisposed with municipal solid waste, the bill requires that the facility have an additional liner and leachate collection system. This proposed design exceeds the Federal regulatory standard for land disposal of hazardous waste and would impose unnecessary costs on local communities.

The effect of this requirement is to severely disadvantage the codisposal of municipal waste combustion ash with municipal solid waste. While many new, large waste-to-energy facilities use monofills, smaller communities served by smaller waste combustion facilities are less likely to produce a sufficient amount of MWC ash to clearly justify the development of an ash monofill. In addition, there are many existing facilities which use cofills, and there are a number of "monofills" where certain non-combustibles are codisposed with the ash. We see no environmental or policy reason to prohibit the continued use of these landfills or to make the use of these landfills more expensive by requiring an additional liner and leachate collection system. We suggest, therefore, that the additional requirements on cofills be deleted from the bill.

Second, the bill establishes separate minimum technical requirements for disposal in sanitary landfills of ash that has been tested and passed. We support the inclusion of provisions to allow communities the option to subject ash to a regulatory test prior to disposal in a sanitary landfill. However, we suggest that minimum technical standards for sanitary landfills where ash is disposed should be the same as are determined appropriate for all sanitary landfills. The scientific data indicate that codisposing ash and municipal solid waste presents no greater threat to human health and the environment than disposing of municipal solid waste itself.

#### ASH REUSE

It makes no sense to landfill waste combustion ash if it can be put to a good and safe use. In this regard, ash is no different from any other reusable material.

Significant research is currently underway to develop techniques which will allow for the beneficial use of ash from waste-to-energy facilities, while assuring the continued protection of human health and the environment. If successful, this research could lead to significant economic benefits. Solid waste disposal costs for local communities would be reduced, and the economy would benefit from the availability of ash as a less expensive alternative material.

The IRR supports provisions in S. 976 which would direct the EPA to establish regulations on ash reuse. We are concerned, however, that the bill may have the effect of terminating important research and development into ash reuse if EPA fails to promulgate regulations within the 36 months specified in the bill. If EPA misses that date, the bill would allow ash reuse only if the ash is treated and an extraction procedure test applied to the ash does not exceed Safe Drinking Water Act standards. In our view, this would be counterproductive. We suggest that the bill be amended to provide that ash reuse not be permitted without a permit or other prior approval from the State where such reuse occurs, and that this requirement be effective from the date of enactment until such time as EPA regulations are promulgated and in effect.

#### SOLID WASTE PLANNING REQUIREMENTS

I also would like to comment on the solid waste management planning requirements included in Section 402 of S. 976. A critical challenge for the committee will be to develop and implement a national policy on solid waste management, while still retaining for local communities the flexibility needed to implement a local solution for what is essentially a local problem.

In this regard, I would like to share with the committee two observations and a suggestion. First, many local communities now approach solid waste management planning in ways which are completely consistent with the requirements of S. 976. My company, American Ref-Fuel, and the other member companies of the IRR, work with local communities and participate in local solid waste management planning on a regular basis. We are finding that local communities faced with the need to develop new disposal capacity for municipal solid waste examine and assess the nature of the local waste stream, evaluate the four different options for managing this waste (i.e., source reduction, recycling, waste-to-energy and landfills), and then seek to fashion a long-term solution which is realistic, environmentally safe and cost-effective. As a general rule, local communities that choose waste-to-energy only do so after a full and complete evaluation of all the alternatives.

My second observation is that local communities across the country are already committed to recycling and waste reduction to the extent that they provide realistic and viable options for addressing their solid waste management problems. Local solid waste management plans generally look first to see what can be achieved through recycling and waste reduction. In fact, the only difference that we see between the planning process now used by many local communities and that proposed by some of the most ardent environmental advocates is that local communities are more realistic and pragmatic in assessing the potential for recycling and waste reduction.

Theoretical projections that it may be possible to recycle 75 to 90 percent of the municipal waste stream are not adequate planning assumptions for a local community which must collect and cost-effectively dispose of several thousand tons of municipal solid waste each day. Local communities must be, and are, more realistic.

These two observations provide the basis for my final suggestion to the committee. It is appropriate for the Federal Government to encourage local communities to emphasize recycling and waste reduction in their solid waste planning by developing programs that help build the markets and infrastructure necessary for recycling and waste reduction. But it would be a serious mistake to attempt to seek to force recycling and waste reduction by imposing a moratorium or other restriction on the construction of waste-to-energy facilities.

Recycling and waste-to-energy are compatible technologies. Many of the materials targeted by community recycling programs, such as metal, glass, and yard waste, have little or no energy value. Recycling thus can improve the efficiency of waste-to-energy plants by diverting from the waste stream those materials that are a poor source of energy. Indeed, Japan, generally recognized as a world leader in recycling, uses over 1900 waste combustors to combust about 70 percent of the wastes that are not recycled. Within the United States, many of the communities that have some of the best recycling programs also utilize waste-to-energy as part of an integrated solid waste management plan. Hillsborough County, Florida (27 percent recycling), Marion County, Oregon (25 percent recycling), Gloucester County, New Jersey (47 percent recycling), and Babylon, New York (30 percent recycling) are excellent examples. The choice is not recycling or waste-to-energy. Remember, there is no moratorium on garbage.

I urge the committee to implement planning provisions that will help communities continue this progress, and to reject proposals which remove the flexibility necessary for local communities to develop local solutions to a local problem.

#### CONCLUSION

I appreciate the opportunity to testify before this Subcommittee, and I hope that the materials which we have provided are of assistance. The IRR stands ready to assist the subcommittee in its efforts to pass legislation which will help this country manage its solid waste in an environmentally sound manner through this decade and into the 21st century.

[Attachments to this statement have been retained in committee files.]

#### PREPARED STATEMENT OF FRANKLIN DUCHENEAX

Mr. Chairman, my name is Frank Ducheneaux and I am a member of the consulting firm of Ducheneaux, Gerard & Associates. Our firm represents the Campo Band of Mission Indians of California and I am presenting this testimony on their behalf. On behalf of Mr. Ralph Goff, Chairman of the Campo Band, I would like to thank you for inviting us to testify on S. 976, the Resource Conservation and Recovery Act Amendments of 1991.

The Campo Band is an economically depressed community that has been looking for ways to create economic development on its reservation. The prospects for developing enterprises on the Reservation appear bleak. The Campo Reservation is relatively distant from the industrial and business centers of coastal California. Because of its remote location, the Band has been unable to attract manufacturers to the Reservation. There are no natural attractions that might bring tourist in substantial numbers. Even gaming, which has proven so beneficial to many tribes, is not a viable option at Campo. Moreover, the Reservation offers virtually none of the infrastructure necessary to attract development to the Reservation. Up to now, the Band has simply had no resources to develop the environmental infrastructure and regulatory controls necessary to prevent further degradation of the Reservation environment.

In 1987, the Band began investigating the solid waste industry as a possibility for economic development. The County of San Diego, in a preliminary siting study, had identified the Reservation as a potential landfill site. While the Band's initial reaction was negative, the Band's leadership ultimately authorized a feasibility study for a solid waste project on the Reservation. The study found that the County of San Diego is producing approximately 12,000 tons per day of solid waste; the County's primary disposal facilities are landfills that are scheduled for closure by 1995 and the County is scrambling now to expand the existing landfills beyond their original capacity.

The Band also learned that, in many respects, the solid waste industry is a good match for tribal communities due to the needs and economics of that industry. The isolation and abundance of reservation land fulfill a primary need of the solid waste industry. Moreover, the industry offers many opportunities for unskilled and semi-skilled workers, as well as opportunities for training in marketable skills. Finally, developers in the industry are accustomed to capitalizing projects without cash contributions from host communities. The primary negative factor in solid waste projects is, of course, the potential environmental problems. The Band became convinced, however, that with proper technological and regulatory controls, such facilities can be operated with no more impact on the environment than any other industrial development.

The first step was to develop environmental regulatory controls and a system for enforcing them. The Band therefore established the Campo Environmental Protection Agency (CEPA) and charged CEPAS with the responsibility for developing a plan for the management of solid waste on the Reservation, developing an ordinance specifying the requirements for a solid waste regulatory system, and developing detailed regulations for solid waste facilities on the Reservation.

Thus, the Band decided to proceed with the development of a solid waste project on the Reservation. The project will consist of a recycling facility that will handle primarily commercial and industrial recyclable, a composting facility that will handle sewage sludge and "green" waste, and a sanitary landfill that will dispose of municipal solid waste. *The Campo Band prohibits the handling, processing, and disposal of hazardous waste within the reservation, and the Campo solid waste project will not accept any hazardous waste for recycling, composting, or disposal.*

#### ORGANIZING FOR PROJECT DEVELOPMENT

The General Council of the Band authorized the Chairman to assemble a team of experts to assist the Band in the development of the project. By early 1988, the Band has assembled a development team comprised of a financial advisor, legal counsel, and solid waste industry consultants. Significantly, the Band decided to require developers to pay the fees and expenses of the consultants retained by the Band. Despite having received literally thousands of hours of work from the experts it selected, the Band has not spent any of its own funds for that assistance; responsible solid waste project developers were entirely willing to pay for the expert assistance the Band has needed.

Next, the General Council established a tribal development corporation—Muht-Hei, Inc. (MHI)—to handle the business interests of the Band in the project. The Board of Directors of MHI consists entirely of tribal members. MHI serves as the leader of the development team and directs the activities of the consultants and advisors of the Band. MHI prepared an economic package detailing the proposed terms of the leases to developers for operation of the landfill and recycling facility. In addition to very aggressive rent, royalty, and bonus payment terms, the MHI proposal included strict requirements regarding compliance with tribal environmental laws, Indian preference in employment and training, indemnification, and insurance. MHI then opened negotiations with major solid waste management firms. After a search lasting approximately eighteen months, MHI closed agreements with Mid-

American Waste Systems (Mid-American), a publicly traded company operating over a dozen landfills in eight States, and Campo Projects Corp. (CPC), a closely held corporation whose principals have successfully operated recycling facilities for almost twenty years.

As noted above, the General Council also established the Campo Environmental Protection Agency. CEPA is served by both legal counsel and by one of the largest and best environmental engineering and consulting firms in the country. Under the leadership of a three-member Board of Commissioners appointed by the General Counsel, CEPA has carried out much of the work assigned to it. In September 1990, CEPA proposed and the General Council enacted the Campo Tribal Environmental Policy Act. Among other things, the Act authorizes and empowers CEPA: to act as the principal agency in enforcing environmental laws enacted by the General Council; to apply for primacy under Federal environmental laws and seek Federal grant funds to carry out its regulatory programs; to establish, with General Council approval, environmental standards applicable to all persons within the Reservation; and to take emergency response measures to address any release or threatened release of pollution that threatens public health and safety.

The General Council also enacted the Campo Solid Waste Management Code. The Code authorizes and directs CEPA: to develop a plan for the management of solid and household hazardous waste generated on the Reservation; to develop a plan for the cleanup of all open and unauthorized dump sites within the Reservation; and to develop comprehensive regulations to govern the operation of the solid waste project. CEPA has prepared a draft solid waste management plan for the Reservation. The Reservation currently does not have trash removal services; under the CEPA plan, these services would be provided to each household. CEPA also has proposed, and the General Council has approved, a plan for the closure and cleanup of all open dump sites on the Reservation. In February 1991, CEPA issued—after public review and comment—its solid waste regulations governing the landfill and the recycling facility. The regulations lay out a comprehensive regulatory system for the permitting, closure, and post-closure maintenance of the facilities.

Finally, CEPA has applied to the U.S. Environmental Protection Agency for "treatment as a State" under section 518 of the Clean Water Act. Under the proposed program, CEPA will develop and enforce water quality standards for the Campo Reservation. CEPA currently is developing an application for treatment as a State under the Clean Air Act. Both programs will enhance CEPA's ability to address not only the environmental impacts of the solid waste project, but also the long-standing environmental problems of the Reservation.

#### THE FEDERAL STATUTORY FRAMEWORK FOR THE PROJECT DEVELOPMENT

Federal laws governing industrial development on Indian lands are old and in dire need of attention; nevertheless, they offer a sufficient basis for the structure of the transaction. Early on, the Band determined that the easiest way to proceed was a simple lease of tribal lands. Such a lease is authorized specifically by Federal law, while more complex forms of business relationships, such as partnerships and joint ventures, are not. Thus, consistent with the decision to allow MHI to represent the Band's business interests in the project, the General Council has leased to MHI approximately 600 acres of tribal land, land that was designated in 1978 for industrial development, for the solid waste project. MHI, in turn, has agreed to sublease part of the land to Campo Projects Corp. for the development of a recycling facility, and part to Mid-American for development of a sanitary landfill. (MHI has not yet selected a developer for the composting facility.)

The lease to MHI and the subleases to MAWS and CPC all require the approval of the Secretary of the Interior. The Band realized very early that the standards for Secretarial approval of leases with Indian tribes were inadequate to protect tribal interests in this setting. For example, the Secretary is supposed to insure that the tribes receive the entire value of the land being leased for industrial use. The Secretary does so by comparing the lease terms to the "market value" of the land. However, the measurements of market value that ordinarily are applied by the Bureau of Indian Affairs (BIA) in evaluating the adequacy of compensation for the use of Indian land are wholly insufficient to evaluate the adequacy of the consideration in a transaction with the waste industry. For example, most tribal land on the Campo Reservation is leased for cattle grazing. The land is so barren that it will support very few cattle. If market value were to be assessed by those measurements, the Band would receive only a few dollars per year per acre. Therefore, the Band had its financial advisor conduct an analysis of the value of lands used for sanitary landfills and used that analysis to establish its asking price. The negotiations with the

developers resulted in a lease requiring annual payments of seven figures to the Band and MHI.

Similarly, the issues of indemnification and insurance are not covered adequately in Federal regulations. Particularly in this era of \$25 million cleanups under Superfund and other Federal laws, not to mention the potential liability of the United States as the legal owner of Indian lands, this shortcoming must be addressed. Campo determined that the questions of insurance and liability had to be negotiated with the developers so that the tribe and the Department of the Interior would be indemnified by the developers for any liability resulting from the development and the operation of the facility. In addition, insurance policies, bonds, or other financial assurances of the appropriate type and amounts, coupled with a thorough investigation of the developers' ability to make good on these assurances, insure that the tribe and the United States will be held harmless against liability.

Federal law is much more helpful in the realm of environmental regulations and permitting. The required approval of the Secretary of the lease and subleases for the project very clearly will be deemed a "major Federal action" under the National Environmental Policy Act (NEPA), requiring the preparation of an Environmental Impact Statement (EIS). Campo initiated the Federal environmental review process by having an environmental assessment prepared by a private consultant. That environmental assessment serves as the starting point for the preparation by the BIA of the EIS for the project.

The EIS process is indispensable to our regulatory and permitting program. The mitigation measures imposed on the operation of the project in the EIS will be primary operating standards for the project; any violation of those mitigation measures will be a breach of the underlying lease and will subject the developers to penalties under the lease and subleases, including the possibility of cancellation of the lease. We hope and expect that the EIS will impose numerous mitigation requirements on the project for the protection of the environment. Under the Resource Conservation and Recovery Act, any facility that receives hazardous waste must receive a RCRA permit; in the case of non-hazardous solid waste, however, there is not Federal permitting system. Thus, the EIS and the mitigation measures it imposes are, in essence, the Federal permit for the project.

Tribal and Federal environmental regulatory laws also play a key role in the regulation of the project. The Clean Water Act, the Comprehensive Environmental Response, Compensation, and Liability Act, and the Clean Air Act all have been amended to allow tribes to assume primacy for the programs authorized by those statutes. The statutes serve as sources of authority, grant funding, and technical assistance for the Band. Moreover, even before Federal assistance has been received, the Band has made enormous progress in developing a regulatory program for enforcing stringent tribal laws governing the project. The tribal regulatory standards and the program for enforcing those standards use California law as their baseline; in many important respects, the Band has toughened the State law standards, and undoubtedly will have the most stringent and aggressive regulatory program in the State of California. CEPA has retained a reputable private environmental engineering and consulting firm to serve as its source of technical expertise in carrying out the program.

Even though Congress has not yet enacted amendments to RCRA allowing EPA to treat tribes as States, both RCRA and the landfill siting and operational standards developed by EPA under the statute clearly apply to the project. These standards must be complied with as conditions of the lease and subleases and can be enforced against the developers, MHI and the Band itself through the citizen suit provision. Moreover, because the tribal regulatory program is a key element in insuring the safety of the project facilities, BIA can and should measure the effectiveness of the program in the process of approving the lease and sublease for the project.

Thus, the Federal statutory framework governing the project is comprehensive and, if properly implemented by the Interior Department, adequate to protect both the economic and the environmental interests of the Indian tribes considering such projects. While the laws undoubtedly could be fine-tuned to provide even greater protection for tribal communities, Campo has shown that existing laws can work if three elements are present: (1) a tribal community that sincerely desires effective environmental protection; (2) officials at every level of the BIA who are willing to conduct a careful and comprehensive process of environmental review; and (3) developers who, like CPC and MAWS, are unafraid of rigorous and comprehensive tribal and Federal environmental review. The Federal review process fails only if the BIA is not aggressive and creative in conducting the required review.



## THE BENEFITS OF THE PROJECT

The benefits of this project to the Campo Band are numerous. Our projections indicate that the project will provide full employment to Band members. Moreover, the revenues from the project, half of which have been reserved by the General Council for reinvestment by MHI in other enterprises, will provide the elusive economic self-sufficiency that Campo and all other tribal communities seek. In addition, the half of the revenues from the project that will be used for governmental services help overcome and reverse the social deterioration that poverty breeds. The Band will have the resources to address in earnest the health, educational, and social problems that have plagued it. Most importantly, perhaps, the project has instilled a sense of pride and purpose in the Indian community. The extraordinary resolve and native ability of the Campo Band members is evident from the principled, deliberate approach they have taken in developing the project. Every significant development in the project is reported to, and ratified by, the General Council.

## THE NEW PROBLEMS

The Campo Band now confronts the bitter irony that success breeds resentment and the reality that Indian people often suffer in political forums that, traditionally, are unresponsive to Indian interests. Predictably, the Band is facing local opposition to the project; i.e., the "not-in-my-back-yard" or NIMBY syndrome. The Band and its developers have taken extraordinary measures to meet the concerns of the local non-Indian population. The Band has conducted, and will continue to conduct, an open process in the development of its environmental regulatory program and in the permitting process. Even our adversaries have been given a meaningful opportunity to influence the development and implementation of our environmental program. We have addressed every legitimate environmental issue presented and will continue to do so. Mid-American even has offered a property value guarantee to all non-Indians owning lands adjacent to the landfill site to insure that there will be no adverse impacts on our neighbors. Nevertheless, we face many unprincipled and dishonest attacks on our projects from our neighbors and their self-styled "environmentalist" allies. These "public interest" groups choose to oppose this project without even having talked to us about the project.

The only genuine threat to the project are the political forums of the United States and the State of California, in which Indian people traditionally have had little influence. Fortunately, we have been able to work out our differences with the State of California, and hope to develop a mutually beneficial relationship. However, we are still dealing with concerns in Congress that have no basis in fact with regard to our project. Waste projects on Indian lands have become the subject of much attention in the national media; unfortunately, much of that attention is misguided and uninformed. As a result, members of Congress are concerned that tribal communities are being exploited by an unprincipled industry that seeks to take advantage of poor communities that have few options for economic development. We ask that Congress set aside the generalizations, resist the temptation to respond to NIMBYism, understand the true scope of the issue, and give tribal communities the opportunity to make these decisions for themselves. While we hear that the waste industry is beating a path to the reservation door, the reality is that few, if any, of the waste projects that are proposed will survive the tribal and Federal review process.

## POLICY RECOMMENDATIONS

The guiding policy and overriding goal of congressional policy toward Indian tribal governments is self-determination and economic self-sufficiency. Federal policy on Indian waste projects must recognize that: (1) the waste disposal industry is an indispensable element of the environmental services sector of the economy and represents a viable and appropriate form of industrial development for Indian tribes in some circumstances; and (2) tribal communities are fully capable of evaluating waste project proposals and making good decisions for themselves. Literally dozens of waste projects have been proposed to tribal communities; however, only a handful are still being considered. The proposed Kaibab and Mississippi Choctaw proposals have been rejected by the tribal members, and the Los Coyotes and Rosebud projects face stiff opposition in the tribal communities. Congress must show its confidence in tribal decision-making by letting this process run its course; if and when a tribal community decides that it wishes to pursue such a project, Congress should respect that decision.

There are several actions that both Congress and the administration can take to help tribes in evaluating these proposals. Looking first to the administrative agen-

cies, it is clear that the Department of the Interior should establish criteria for the evaluation of proposed waste projects on Indian lands. We have worked with the Department on such a policy and have proposed criteria for such evaluation, including the following—

First, the Department should make clear that no waste project on Indian lands and subject to Secretarial approval will proceed in the absence of a legally sufficient EIS. To the extent that some developers are looking to Indian lands as a means of avoiding environmental review processes, such a policy will eliminate such developers.

Second, a measure of market value must be formulated that adequately compensates the tribe for the use of its land as a waste facility. The valuation method used, for example, to determine fair market value of land used for grazing cannot be used to determine market value of the same land used as a waste facility. A permitted landfill site has several valuable characteristics beyond mere value of the acreage.

Third, in order to secure Federal approval, any transaction of this type must provide for indemnification of the tribe and the United States against environmental liabilities and require insurance or other assurances that the indemnification requirements will be met by the developer. The new RCRA Subtitle D regulations should establish the criteria for meeting this requirement, and the Department should apply those criteria to Indian projects.

Fourth, we recommend that, under the precedent set in the Indian Gaming Regulatory Act, the background of any potential developer be examined thoroughly by the tribe or the Department to insure that the developer has sufficient economic resources, and sufficient business integrity, to carry out its obligations to the tribe.

Fifth, the administrative criteria should include an evaluation of the legal and practical abilities of the tribal environmental agencies to regulate the project. The criteria set forth for tribal primacy in the tribal amendments to the Clean Water Act, the Safe Drinking Water Act, and the Clear Air Act provide excellent bases for this determination. If a tribe chooses to leave the responsibility to the Federal Government, the transaction should not be approved unless the Department determines that adequate Federal resources are available to monitor and regulate the facility.

We also have several recommendations for congressional action. First, Congress simply must not give in to the urge to delay consideration of this issue by enacting a moratorium on the approval of such projects. Such a moratorium would have no effect on the less well-considered projects, but would have a devastating effect on the Campo Project. The Campo Band has worked earnestly for several years on its project and has conducted a thorough evaluation of the pros and cons; that evaluation now is being reviewed in detail by the BIA in the lease approval and environmental review processes. Because Campo acted with vision and with an understanding of the market in its local community, it has established an enormous market advantage; quite simply, if the project goes on line as scheduled, it will enjoy a well-deserved advantage over competing projects and its economic viability will be virtually assured.

Second, Congress should reform the Indian land leasing laws to State specifically that tribes may negotiate sanctions for lease violations other than cancellation. Under most leases for Indian lands, any violation of the tribal laws is deemed a violation of the lease itself, thereby giving BIA authority to enforce tribal regulatory laws against lessees of Indian lands. By allowing the BIA to deal with such violations, Congress has created an independent Federal process for addressing environmental violations on Indian lands. The problem is that the only apparent sanction for such a violation is cancellation of the lease. This is an extreme sanction that could deprive a tribe of enormous economic advantage for even a minor violation. While we believe that authority exists for the BIA to sanction lease violations by means other than cancellation if the tribe has negotiated such sanctions, Congress should remove all doubt by authorizing a graduated system of allowable sanctions for violations of leases of Indian lands.

Third, Congress must appropriate funds to tribes to allow them to address their solid waste disposal problems and to regulate facilities proposed for Indian lands. The urgent problems on reservations is not that the waste industry wants to use Indian lands for disposal sites; it is that Indian lands are already being used for illegal disposal sites. Congress can and must address this issue.

Many of the matters we have raised here will be addressed by the Select Committee on Indian Affairs in its consideration of S. 1687, a bill introduced by Senator McCain and co-sponsored by Chairman Inouye. We urge this Committee to support legislation that results from this consideration.

Finally, Congress should enact amendments to the Resource Conservation and Recovery Act that would allow EPA to treat tribes as States for the purposes of the

regulatory and grant programs established by RCRA. A critical problem exists in Indian country with regard to solid waste disposal. Tribes are required to meet RCRA's waste disposal standards even though they have never been eligible for the enormous amounts of grant assistance that has been made available to States over the past fifteen years. The inequity of this situation is obvious, and Congress should act immediately to address this inequity. We will be submitting proposed amendments for the committee's consideration.

#### CONCLUSION

Mr. Chairman, the Campo Band has conducted a model process for the development of waste disposal facilities on Indian lands. Congress and the administration should avail themselves of the knowledge the Band has gained. We offer to help in this process by sharing the things that we have learned, and we hope that Congress and the administration will call upon us as they formulate their response to the issues of waste disposal on Indian lands.

#### STATEMENT OF HON. JOHN MCCAIN, U.S. SENATOR FROM THE STATE OF ARIZONA

Mr. Chairman, I am submitting this written statement for the record and apologize for not being able to testify at the hearing. The distinguished chairman of the Senate Select Committee of Indian Affairs, Senator Daniel Inouye, will testify at this hearing and I wish to associate myself with his remarks.

As you are aware for the past 20 years the Environmental Protection Agency (EPA) has provided financial support for the efforts of State governments to develop comprehensive environmental protection programs and to develop capacities to directly administer federally delegated programs under the Clean Water Act, the Safe Drinking Water Act, the Clean Air Act and the Resource Conservation and Recovery Act. During this period, Indian tribal governments were not eligible to participate in the program development and regulatory capacity-building efforts of the EPA.

For the past several years the Senate Select Committee on Indian Affairs has been involved in developing legislation to enhance the capability of tribes to administer environmental programs on their respective reservations. In 1986 and 1987, the Congress took the significant step of adopting amendments to Superfund, the Safe Drinking Water Act, the Clean Water Act and most recently the Clean Air Act to treat Indian tribal governments as States. Despite the years of hard work by tribal leaders to obtain these authorizations, there is abundant evidence that environmental quality on Indian lands continues to deteriorate.

In addition to these important environmental programs, the Select Committee, under the leadership of Chairman Inouye, considered and acted upon the Indian Environmental Regulatory Enhancement Act of 1990, Public Law 101-403. In the 102d Congress, the committee considered and favorably reported S. 668, the Tribal Government Environmental General Assistance Program of 1991. Most recently, I introduced S. 1687, Indian Tribal Government Waste Management Act of 1991, on August 2. S. 1687 was put forth for discussion purposes. It would establish a framework for Indian tribal governments to regulate and enforce programs necessary for sound waste management operations on Indian lands. In addition, S. 1687 contains provisions for financial, technical, and administrative assistance to tribal governments. S. 1687 does not address the concerns of tribes with regard to RCRA as that is the responsibility of this Committee.

RCRA is the last environmental statute in which Congress has not authorized tribes to be treated as States. Such authorization would allow tribes to develop comprehensive environmental protection programs and to develop capacities to directly administer the program. It is critical that tribes be authorized to be treated as States for purposes of the regulatory and grant programs authorized by RCRA. Tribes should also be involved in both hazardous waste management, as well as waste and secondary material management. In addition management of underground storage tank facilities on reservations is critical. All of these issues have been raised in hearings before the Select Committee on Indian Affairs. We welcome this opportunity to work closely with the committee on Environment and Public Works to share our information and assist you in developing appropriate legislation.

Despite the fact that tribes have never been eligible for grant assistance, tribes are still required to meet RCRA's waste disposal standards. In addition, these standards can be enforced against a tribe for non-compliance with RCRA. Recent case law supports the conclusion that sovereign immunity may be waived under RCRA and a tribe may have to participate in remediation costs. It is ironic that a tribe may be

liable for damages in a given situation because of its inability to secure monies to develop programs to ensure a healthy environment for lands under its jurisdiction.

Today, both Senator Inouye and Mr. Franklin Ducheneaux will testify as to the need for language to be included in S. 976 that will allow tribes to take advantage of the regulatory and grant programs provided by RCRA. Such programs are clearly needed to address the environmental problems on Indian reservations. The protection of environmental quality on Indian reservations is in the best interests of all residents of a reservation community as well as adjacent non-Indian communities.

I look forward to working with Chairman Burdick, Senator Chafee and the members of the Environment and Public Works Committee in the coming months with regard to this very important legislation.

ASSOCIATION OF STATE AND TERRITORIAL SOLID WASTE  
MANAGEMENT OFFICIALS  
WASHINGTON, DC.  
September 23, 1991

Hon. Max Baucus  
United States Senate  
Chairman, Subcommittee on Environmental Protection, Committee on Environment  
and Public Works, Washington, DC.

DEAR SENATOR BAUCUS:

The purpose of this letter is to request that the enclosed position papers of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) concerning the management of municipal solid waste incinerator ash residue and State planning as an element of solid waste management be made a part of the record for your hearing of September 12, 1991.

Ash management was a central topic at the hearing, and we were disappointed that, as they represented users or operators, none of the witnesses could address the issue from a regulatory perspective. Consequently, we believe the record is incomplete at this point. ASTSWMO supports the basic thrust of S-976 which would mandate special management of residual ash under Subtitle D of RCBA. However, we do not share the view that Federal legislation is the appropriate vehicle to detail specific regulatory requirements, including procedural elements that are unnecessarily overdeveloped and burdensome. Instead, we believe that Federal legislation should provide US EPA with the mandate to develop regulations, which take into account varying site conditions, and can more readily respond to technological advances in the management of ash residue.

Because one witness, Mr. Allen Moore, representing the waste industry's NSWMA, testified extensively regarding requirements for State plan approval, we would also like the record to reflect that responsible State organizations have a different view of these provisions of S. 976. Consequently, we request your inclusion of our position which supports the use of Federal standards in establishing State plan elements, but would only require a review role for the EPA which is commensurate with that agency's capabilities and experience of this State-based program.

The future of the Federal-State relationship in amending Subtitle D of RCBA is an extremely important area of reauthorization, and we hope the subcommittee will explore this subject in greater detail with State government witnesses in some future hearings. While there appears to be general consensus that States should be the key players in implementation, there is great concern among State waste managers that many of the legislative proposals (including S. -976) contain detailed and complex approval processes which, regardless of Congressional intent, will prove to be impediments to actual implementation of the subtitle and prove unworkable in practice.

We commend your leadership and energy in moving this controversial reauthorization effort forward, and hope to be of assistance to you and the subcommittee staff as this legislative process continues. Thank you for your attention to this request.

Sincerely,

DANIEL E. COOPER, P.E.  
PRESIDENT, ASTSWMO

## POSITION STATEMENT ON MANAGEMENT OF MUNICIPAL SOLID WASTE INCINERATOR AND WASTE-TO-ENERGY ASH RESIDUE

### BACKGROUND

Currently, it is estimated that over 250 million tons of solid wastes are generated annually in the United States. Even with a goal to reduce, reuse and recycle 50 percent of the solid waste that we generate nationally, this still leaves half of the solid waste that we must properly manage.

To further reduce the volume of municipal solid waste requiring landfilling for those components of the solid waste stream which remain after waste reduction, reuse, and recycling have been fully implemented, there will be a continued reliance upon solid waste incinerator and waste-to-energy facilities.

### ISSUE STATEMENT

Currently, hundreds of thousands of tons of ash residue from solid waste incinerator and waste-to-energy facilities are annually being disposed of in existing non-hazardous waste landfills. In order to assure the public that human health and the environment are adequately protected, ASTSWMO believes that appropriate national minimum standards and management procedures should be developed to properly manage solid waste incinerator and waste-to-energy ash residue.

### DISCUSSION

Given our present knowledge, we believe that the United States Environmental Protection Agency (EPA) should acknowledge that ash residue is exempt from regulation under the Resource Conservation and Recovery Act (RCRA) Subtitle C if generated by solid waste incinerator and waste-to-energy facilities that: (a) receive and burn only (1) household waste, and (2) solid waste from commercial or industrial sources that do not contain regulated quantities of hazardous waste; and, (b) abide by appropriate regulatory requirements and inspection procedures to assure that hazardous waste or other inappropriate material is not received or burned there. ASTSWMO believes that EPA can make this acknowledgement without a legislative amendment. This position is supported by a recent decision by the United States Court of Appeals For The Second Circuit regarding the *Environmental Defense Fund, Inc. versus Wheelabrator Technologies, Inc., Westchester Resco Company, L.P.*

### RECOMMENDATION

ASTSWMO believes that EPA should now promulgate regulations for properly managing incinerator ash residue under RCRA Subtitle D. The purpose of these regulations is to establish minimum national standards for ash residue management, to address the following:

- sampling and testing protocols for uniform characterization;
- minimum technical standards for treatment, transportation and handling facilities;
- minimum technical standards for beneficial utilization; and,
- minimum technical standards for disposal facilities.

In recognition that many States have extensive experience and have already developed their own ash residue management strategies, the Federal regulations should be developed in close consultation with the States.

In addition, ASTSWMO believes that for the proper implementation of a State-oriented ash residue regulatory program, there is a need for EPA to conduct additional research and establish a national technical assistance program that will:

- identify materials that are not appropriate for incineration and identify the means by which such identified materials can be effectively diverted from the waste stream prior to incineration;
- issue guidelines for conducting inspection programs for removal of materials that are not appropriate for incineration;
- assess technologies for treatment of ash residue;
- assess beneficial utilization of ash residue, including consideration of potential human health and environmental impacts; and,
- disseminate research documents through a national clearinghouse.

ASTSWMO recommends that EPA work with the States to move quickly to implement a comprehensive management structure for ash residue from solid waste incinerator and waste-to-energy facilities, as described above.

Adopted by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Board of Directors on July 18, 1991.

## ASTSWMO ISSUE PAPER ON STATE SOLID WASTE MANAGEMENT PLANS

*Issue statement:* The foundation of a State-oriented solid waste management program is a State initiated, developed and directed solid waste management plan that meets the State's needs and national goals to ensure appropriate levels of reduction, recycling and reuse.

*Background:* Regulation of solid waste management has historically been a State and local function. States and local governments have greater experience and expertise in managing the solid waste stream, as well as knowledge of their needs, than does the Federal Government. Therefore, with the reauthorization of RCRA, it is critical that the Subtitle D solid waste management plan remain State oriented and directed. The State/Federal relationship must be a balance between State autonomy and Federal requirements, with the Federal Government assuming a leadership role in three specific areas of: 1) promoting waste reduction policies; 2) fostering markets for recycled goods; and 3) establishing commodity-specific recovery and utilization standards.

This ASTSWMO issue paper outlines the key elements of the State/Federal relationship in the areas of solid waste management plans and EPA review of plan implementation.

## PLAN ELEMENTS

*Discussion:* A reauthorized RCRA subtitle D should establish the elements for State solid waste management plans that address the following areas:

1) *Management Hierarchy.* Each State should adopt a hierarchy of MSW management options which places waste reduction, reuse and recycling above solid waste processing and land disposal. In establishing this hierarchy, the plan should reflect the State's unique circumstances (e.g., recycling markets, geology, climate, population density, etc.).

2) *Planning Period.* State plans should cover a planning period not exceeding ten years, but should be updated at least every five years.

3) *Waste Inventory.* Each State should develop base level and projected information on the generation of its Subtitle D wastes, with special emphasis on municipal solid waste, accounting for all of its components. This should include identifying waste flows imported and exported among the States with respect to the various solid waste streams.

4) *Relationship between State/Local Government.* Each State should describe the relationship that exists between the State and its local governments regarding the key elements of plan development and program implementation.

5) *MSW Reduction/Recycling Program.* Each State should describe its MSW reduction and recycling program, including its market development efforts; any State/local recycling requirements; and future efforts for MSW reduction and recycling, and identification of specific obstacles to implementation.

6) *Management Capacity.* Each State plan should describe existing and anticipated future MSW management capacity, including efforts to develop additional capacity. Each State should periodically assess its management capacity but should not have to complete a capacity assurance plan, or be required to take specific action to ensure additional capacity.

7) *Regulatory Program.* Each State plan should describe the State's solid waste regulatory program, including: 1) its authority to implement its program; 2) its organizational structure; 3) its management standards; and 4) its permitting and enforcement program for MSW.

8) *Citizen Participation.* Each State plan should describe the process of citizen participation in the development of the plan.

## PLAN IMPLEMENTATION

The States have historically had responsibility for solid waste management and many States have progressed beyond the Federal Government in terms of regulations for Subtitle D management facilities. Therefore, ASTSWMO believes that it is sufficient for a State to certify its ability to continue to regulate solid waste management.

1) *Self Certification.* Each State will certify that it has the necessary authority and program elements to implement its Subtitle D solid waste management program, that its State plan includes all required elements, and that the State is committed to implement the State plan.

2) *EPA Role in Plan Implementation.* EPA should review State plans for completeness. Any plans deemed incomplete would be returned to the State for additional work. If the plan is complete, EPA shall accept the State's self-certification.

States failing to self-certify would risk EPA assumption of the State's Subtitle D solid waste programs. States will provide information so that EPA can analyze national progress toward meeting the RCRA Subtitle D reduction, reuse and recycling goals.

*Recommendations:* ASTSWMO supports the foregoing plan elements and implementation process, and recommends a planning process which:

- Does not require EPA approval of State solid waste management plans;
- Does not require a capacity assurance process with EPA approval;
- Does not require analyses of each option to be utilized by the local jurisdictions actually managing their waste systems, as these analyses are best left to local planning processes;
- Does not require any mandated schedules for siting, permitting and/or constructing facilities; and
- Does not require any changes in State law if State law is sufficient to enable plans to meet statutory goals, objectives, and performance standards.

ASTSWMO also recommends that EPA develop a standardized definition of what constitutes municipal solid waste, as well as a standardized methodology for collecting data on its generation.

Adopted by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Board of Directors on August 16, 1991.

# RESOURCE CONSERVATION AND RECOVERY ACT AMENDMENTS OF 1991

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FRIDAY, SEPTEMBER 13, 1991

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION,  
*Washington, DC.*

## INDUSTRIAL WASTES

The subcommittee met, pursuant to recess, at 9:30 a.m. in room 406, Dirksen Senate Office Building, Hon. Max Baucus [chairman of the committee] presiding.

Present: Senators Baucus, Chafee, and Warner.

## OPENING STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA

Senator BAUCUS. The hearing will come to order.

Today we will focus on the final set of waste management issues of hazardous waste recycling and industrial wastes.

Recycling and nonhazardous waste present different problems and different challenges, but they have one important similarity—both are largely unregulated. Perhaps the toughest issue we will discuss this morning is the regulation of recycling.

The regulation of recycling is one of the most complicated parts of the Resource Conservation and Recovery Act. Boiled down to basics, the issue is perhaps best described by the following question: When does RCRA regulate things that are recycled, and when is recycling exempt from RCRA? Unfortunately, the answer is not straight forward; it depends on what's being recycled and how it's being recycled.

For the most part, if the recycled material looks like waste and is handled like our waste, then RCRA regulates it. But if the material is used in certain ways to manufacture a product, then RCRA does not apply. If that sounds confusing, it is. What's worse, all one has to do to get out of RCRA is to claim that he meets the recycling exemption without even getting EPA approval. This allows anyone to claim the system to avoid regulations. That's known as "sham" recycling and there are many examples of recycling "shams". But sham recycling is not the only problem. In many cases, legitimate recyclers can legally operate without environmental controls. In some instances, legitimate recycling operations have caused health and environmental damage. About 100 recycling facilities are now Superfund sites.



Our task will be difficult. It is not just a matter of closing a loophole in RCRA, we must also retain incentives to encourage safe and legitimate recycling. We must clarify when RCRA applies to recycling operations. We must require those that qualify for RCRA exemption to notify the EPA and get some kind of prior approval. And, finally, we must require that legitimate recycling is synonymous with safe recycling.

RCRA reauthorization legislation I recently introduced includes provision to do just that. Senator Chafee and Senator Warner also have proposals to address the issue. I hope to fully explore with the witnesses their thoughts on each of these three proposals.

The other issue we will explore this morning is how to regulate nonhazardous industrial waste. This issue may be less confusing than recycling but it is just as challenging. I say that because the amount of nonhazardous industrial waste produced in this country is overwhelming and the number of plants that generate such waste is staggering. Municipal waste and hazardous waste are just the tip of the iceberg; together they account for a little more than 400 million tons of waste a year. On the other hand, nonhazardous industrial waste alone accounts for 7.5 billion tons of waste a year. This waste is generated at some 72,000 pulp papermills, chemical plants, ironless tool factories, and other plants as well.

Unlike hazardous waste, nonhazardous industrial waste is highly diverse in its toxicity. Some wastes—like used sand and gravel—are not of concern. Other wastes—like oily sludges, spent dyes, detergents, cleaners—can be toxic and, if improperly managed, these wastes may pose health and environmental problems. For too long these wastes have escaped environmental controls. Some States, such as Pennsylvania, have regulatory programs to control these wastes; but most States don't have nonhazardous industrial waste programs. We now have an opportunity to address the problems from improper management of nonhazardous industrial wastes. The RCRA legislation I recently introduced includes new requirements for these wastes. I'll be interested in hearing what the witnesses' thoughts are on this legislation.

We have a lot to cover this morning, and I thank all the witnesses for taking the time and effort to come to the hearing today.

I'd like to change the order of witnesses this morning. Senator Chafee is unable to be here for a little while yet. He is most interested in the hazardous waste recycling issue. In addition, Senator Wirth of Colorado would like to testify before this subcommittee with respect to issues in his State. His issues are more properly in the category of hazardous waste recycling. So I would like to defer that panel and call up first the panel dealing with nonhazardous industrial waste.

So let's hear from John Dernbach, who is a Special Assistant for the Bureau of Waste Management, from Pennsylvania; Mr. Bob Cardillo, Senior Environmental Associate for Exxon; Mr. David Boltz, who is the Manager of Environment for Bethlehem Steel, testifying on behalf of the American Iron and Steel Institute; and Mr. William Shea, Vice President of Operations for U.S. Pollution Control, Inc., Fort Worth, Texas.

I would remind all the witnesses that we have a five-minute rule here. When the light is green, keep going; when it's yellow, get

ready to wind down; when it's read, wind down. And all your testimony will be automatically included in the record.

Okay, Mr. Dernbach, proceed.

**STATEMENT OF JOHN C. DERNBACH, SPECIAL ASSISTANT TO THE DIRECTOR, BUREAU OF WASTE MANAGEMENT, PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES, HARRISBURG, PENNSYLVANIA**

Mr. DERNBACH. Good morning. My name is John Dernbach. I am Special Assistant in the Bureau of Waste Management, Pennsylvania Department of Environmental Resources.

Non-hazardous industrial waste—industrial waste that is not legally hazardous under subtitle C of the Resource Conservation and Recovery Act—is the sleeping giant in this reauthorization of the Act. The subcommittee is to be congratulated for addressing this issue not only in this hearing but also in S. 976.

Pennsylvania is by no means the only State with an active industrial waste regulatory program, but our perspective is useful because we have a large population and industrial base, and a history of significant problems from improper management of industrial waste. We also have a statute that requires specific and regulatory treatment for industrial waste; so we've had an opportunity to think about the regulation of industrial waste by itself.

Through most of the 1980s, the management of hazardous waste dominated our time and energy in the waste management program in Pennsylvania. That was mostly due to this subcommittee's work in the development of RCRA. In 1988, as a municipal waste landfill capacity crisis began developing in Pennsylvania, we began devoting more of our energy to municipal waste. Three years later, six million of our citizens live in municipalities that have curbside recycling programs, and virtually all of our municipal waste landfills are on a double liner and leachate treatment design that is comparable to that for hazardous waste disposal facilities. We are now in the process of completing a substantial and comprehensive revision to our existing industrial waste regulations. But we've had an industrial waste regulatory program in place since the early 1970s. We've issued something like 400 industrial waste disposal and processing permits in that time.

I would like to emphasize four points for the committee's consideration in the development of a national industrial waste program.

First, very strong consideration and encouragement should be given to disposal alternatives. It is very easy for a lot of us who work in waste management to talk about facilities in terms of landfills. But we think it is very, very important that a regulatory program encourage the development of composting facilities, the land application of food processing and other industrial wastes, and other alternatives to disposal.

In addition to that, we think that it's important to look at the beneficial use or recycling of industrial waste, and try to develop a program that gives encouragement to industrial waste recycling without creating environmental problems. To do that in Pennsylvania, we're putting together a general permit system for the benefi-

cial use of specific categories of industrial waste for specific purposes.

We are also very sensitive to the fact that an important disposal alternative is not generating waste in the first place. The program that we're completing will require industrial waste generators to develop a source reduction strategy or plan, and will require that that plan be submitted to the Department of Environmental Resources as part of the permit application to dispose of that particular waste at a facility. So we think that disposal alternatives are very, very important to be considered.

My second point is that the legislation needs to respond to the diversity of risk associated with industrial waste. As you indicated, Senator, there are a lot of different kinds of industrial wastes; they range in toxicity a great deal. It is important to develop a regulatory program that corresponds to that diversity of risk. We try to do that in our program by providing that some facilities have two liners, some one liner, and some—a small number—may have no liners at all. To police that, we're requiring that industrial waste be subject to a chemical analysis that we review before waste can be disposed at a facility.

My third point is that the phase-in period for this particular program needs to be very sensitive to the huge volume of the waste involved. We're looking at a five-to-ten year transition period in Pennsylvania. We have about a thousand unpermitted facilities that we have to give permits to or close, and that's going to be a very high priority for us.

Finally, I would very strongly encourage the subcommittee to look at ways of empowering and strengthening the States in their development of industrial waste regulatory programs in noncoercive ways. States are going to be doing most of the work and they will be able to do that better with general performance standards that give them the ability to fill in the details and make choices about how those performance standards will be implemented.

Thank you for your time.

Senator BAUCUS. Thank you very much, Mr. Dernbach.

Mr. Cardillo.

**STATEMENT OF ROBERT M. CARDILLO, SENIOR ENVIRONMENTAL ASSOCIATE, EXXON CHEMICAL AMERICAS, ON BEHALF OF CHEMICAL MANUFACTURERS ASSOCIATION OF AMERICA, WASHINGTON, DC**

Mr. CARDILLO. Thank you, Mr. Chairman. My name is Robert Cardillo and I coordinate the management of hazardous and nonhazardous wastes for Exxon Chemical Company's U.S. plants. I am appearing today on behalf of the Chemical Manufacturers Association.

Mr. Chairman, the chemical industry supports a National framework that would foster improved nonhazardous waste management. Our industry generates much more nonhazardous waste than hazardous waste, and we certainly confirm the numbers that have appeared that show that the universe of industrial nonhazardous waste is very large, indeed.

Let me say a word, too, about the diversity you mentioned. Many nonhazardous wastes are relatively benign or even inert. Though some industrial process waste contain hazardous constituents, these constituents are present at various levels, very diverse levels, but generally do not require the same stringent controls as hazardous waste in order to protect human health and the environment. Consequently, applying a monolithic program, which assumes that every waste poses the same risk, is inappropriate here. What is needed are standards that protect human health and the environment by applying a range of management controls to different waste types.

With this large and diverse universe of wastes and facilities, the States must play a primary role. This is not only a matter of philosophy. We believe it is the only system that will work. Despite the overwhelming National focus during the past ten years on hazardous waste, as was just mentioned, State programs are becoming increasingly active and proficient in addressing nonhazardous waste problems. This was high-lighted in a study of all 50 State programs that we recently co-sponsored with the API. New RCRA legislation should recognize and build upon these existing State programs.

We strongly support a national framework for non hazardous waste management. We believe that it should include the following key elements.

First, notification for all nonhazardous waste management facilities.

Second, the nonhazardous waste universe should be divided into waste categories so that standards can be developed for each.

Third, States should develop regulations based on Federal performance-based design criteria and management criteria which define a set of management standards that are appropriate for a given category of subcategory of waste.

And, finally, State permitting of nonhazardous waste facilities must not be unduly burdened by additional Federal requirements. To put the resources where they are needed most, permits should be required only for land-based disposal units and there should be a streamlined permitting system.

Mr. Chairman, let me devote a few moments to CMA's reactions to the nonhazardous waste provisions of S. 976, specifically the sections 403 and 404.

Section 403 is the permitting section and contains provisions that could reduce potential problems in this area. Nevertheless, it is still a permitting program that is, in essence, a very burdensome and centralized Federal system. Based on our experience, we believe that meaningful results can be achieved more effectively and more quickly by devoting State resources to communication, regulations, and enforcement.

Section 404 contains many elements that we support. We like the categories approach and the priorities implied in the schedule for implementation. In concept, we support the need for the management standards enumerated. We agree, for instance, that groundwater monitoring should be more extensively used at land disposal units. But we're concerned by section 404's focus on Federal regula-

tions that effectively will preempt State flexibility in tailoring and implementing their own regulations.

Mr. Chairman and members of the subcommittee, thank you for considering our comments. We plan to submit additional written information on the recycling issues that will be discussed later in the morning, and additional comments on industrial solid waste. I earnestly hope that we can work closely with your staff in perfecting this bill.

Senator BAUCUS. Thank you very much, Mr. Cardillo.

Next, Mr. Lennett.

**STATEMENT OF DAVID J. LENNETT, ON BEHALF OF THE  
ENVIRONMENTAL DEFENSE FUND, LITCHFIELD, MAINE**

Mr. LENNETT. Thank you, Mr. Chairman, members of the subcommittee. My name is David Lennett, and I would like to commend Senator Baucus and Senator Chafee and the other cosponsors of S. 976 for recognizing the enormous need to upgrade industrial waste management practices. The importance of that effort is clear. With the promulgation of municipal landfill rules the other day, this country is now regulating municipal landfills more stringently than industrial waste facilities even though the available evidence would indicate that at least many industrial wastes pose greater risks and are generated in larger quantities. In addition, industrial facilities are not as well designed or monitored in many cases, and local governments, as we all know, are probably less able to pay for the needed improvements.

This is not to suggest that the regulation of municipal landfills is inappropriate, but it is to suggest there is a tremendous gap in regulatory coverage. I am not aware of any objective or subjective study that indicates existing State industrial waste programs are adequate right now.

The nation in this position in large part because EPA couldn't even finalize a notification form, let alone substantive rules, in the seven years since HSWA was amended in 1984. I think we have to recognize that this EPA recalcitrance is an unfortunate fact of life and take such recalcitrance into account when we're designing an appropriate industrial D program.

Indeed, the situation at EPA is even getting worse. Yesterday, EPA testified before a House subcommittee that Federal regulatory programs for oil and gas, and mining wastes—programs they had indicated publicly were needed in 1986 and 1988—are now regarded by the Agency as premature. I am sure you'll have a chance to explore this matter next week with EPA when Mr. Reilly testifies before this subcommittee.

This fact of life, when coupled with the need to move forward quickly, means broad delegations of authority to EPA without policy direction will not work. It also means that if improvements at industrial waste facilities can be made without waiting for EPA to issue rules and for EPA and the States to issue permits, that approach must be seriously considered. And, finally, it means our expectations must be realistic and our efforts must be targeted so that EPA and State efforts are focused properly as this program gets underway.

We suggest targeting resources by concentrating first on permitting land disposal facilities. We also urge that you consider a number of requirements that can be imposed by statute which would be enforceable by EPA, and the States through their own State laws or through the citizen suit provisions of RCRA, that would apply to land disposal facilities in advance of a permitting program. We have suggested in our testimony a number of those requirements which could be imposed in addition to the notification requirement that's in your bill. Briefly, they include:

One, ground water monitoring. I would be interested to explore this requirement with other witnesses at this table, but I believe there is at least an emerging consensus that ground water monitoring would be appropriate at land disposal facilities and that there is no reason to wait.

Two, site assessment. I think it is important that we begin to know immediately the potential impact of these facilities on the environment. There is no reason a site assessment performed by the owner-operator need wait for the time of permitting.

Three, general corrective action authority, which would provide EPA and the States the ability to respond to problem sites when that information becomes available rather than waiting for a permit to be issued or waiting for the site to become an imminent and substantial endangerment.

And, finally, clear jurisdiction must be established over a disposal facility that will continue to operate after your bill is enacted but will never receive an operating permit because they are closed prior to the time that permit is issued. This became a very important issue in the subtitle C area. Jurisdiction was unclear. I think because these facilities will only be addressed at the time of closure, it is very important that clear statutory authority be provided to either close land disposal facilities properly or make sure post-closure permits are issued so that the facilities are properly maintained and don't become a threat at some future time.

I will close my oral statement now, and I will be happy to answer any questions that you may have.

Senator BAUCUS. Next, Mr. Boltz.

**STATEMENT OF DAVID G. BOLTZ, MANAGER, WASTE MANAGEMENT PROGRAMS, ENVIRONMENTAL AFFAIRS DEPARTMENT, BETHLEHEM STEEL CORPORATION; ON BEHALF OF THE AMERICAN IRON AND STEEL INSTITUTE**

Mr. BOLTZ. Good morning, Senator, members of the subcommittee.

I would like to begin my comments by addressing the industrial waste questions included with your August 30 invitation to testify. I will use the term "industrial waste" as it is defined in section 104 of S. 976.

You asked AISI to identify those industrial waste streams that pose the greatest concern to human health and the environment, and to comment on whether some industrial wastes contain toxic constituents at levels as high as some hazardous wastes. I believe that wastes represent a potential hazard only to the extent that hazardous constituents contained therein can be released into the

air, water, or land. The concentration of a hazardous constituent in a waste is sometimes a major factor in the composition of that waste's leachate. But if that constituent is chemically bound to other elements or compounds so as to render the constituent immobile, concentration is of little consequence.

This principle is illustrated very convincingly in chemical stabilization technology, which EPA has adopted in specifying "Best Demonstrated Available Technology" for purposes of RCRA's Land Disposal Restrictions program.

With regard to the Federal Government's role in developing and implementing an industrial waste regulatory program, it is my experience that industrialized States—such as Pennsylvania, New York, Indiana—have already addressed this issue with comprehensive industrial waste regulations. Therefore, the proper role of the Federal Government is to assure a "level playing field" for all industry by establishing minimum management standards for such wastes.

You also asked about appropriate management standards for industrial waste facilities. I do not believe that all industrial waste landfills or surface impoundments require liners and leachate collection systems, although basic groundwater monitoring is probably necessary for all land-based facilities.

EPA's hazardous waste regulations do not reflect the degree of hazard in establishing management standards, but many States do differentiate between industrial wastes on the basis of leachate and other relevant characteristics and specify management standards accordingly. We recommend that Federal guidelines for industrial wastes include the same concept.

I now wish to address two critical corrective action issues.

S. 976 appears to require corrective action for all releases of hazardous constituents from any solid waste management unit (SWMU) at industrial waste or municipal solid waste facilities subject to the new permitting requirements. This language is almost identical to that used in section 3004(u) of current law.

The key issue in the development of corrective action regulations is the determination of the appropriate point of compliance for groundwater standards. EPA seems to prefer a point of compliance at the boundary of each SWMU, while AISI believes that protection of human health and the environment can be assured by meeting groundwater standards at a facility's property boundary.

AISI estimates that it would cost about \$3 billion for the steel industry to design and implement required corrective measures with the point of compliance at the SWMU boundary. However, moving the point of compliance to the facility property boundary could result in a reduction in clean-up costs of at least 50 percent without significantly reducing the degree of protection of human health and the environment.

In the consideration of alternative points of compliance, it is important to recognize that SWMUs are located on industrial sites not accessible to the general public. Also, today's practical reality is that real estate transfers require clean-up of the property to levels commensurate with intended use.

The public policy of any corrective action requirements should be to prevent or contain and remediate industrial contamination

beyond the boundaries of an industrial site, not to impose unnecessary and prohibitively expensive requirements to remediate individual SWMUs. Therefore, AISI requests that you specify a facility's property boundary as the point of compliance for groundwater standards, at least for the steel industry.

[Laughter.]

Mr. Boltz. A closely related matter involves financial assurance for corrective action. It is crucial that EPA develop adequate and appropriate financial assurance requirements that will not have a devastating impact on a significant portion of the regulated community. We suspect that EPA will apply the financial assurance mechanism found in 40 C.F.R., Part 264, Subpart H to corrective action financial assurance. However, this regulation—which was developed for the relatively modest hazardous waste closure and post closure care costs—does not work in the context of huge corrective action costs. A legislative mandate would be helpful in assuring that an appropriate financial mechanism is implemented for corrective action.

Finally, with regard to Federal procurement requirements, AISI wishes to have proper recognition for the two very different ways steel is produced in the United States today. The electric furnace process uses virtually 100 percent scrap, while the basic oxygen furnace process is based on a combination of scrap and smelted ironore, otherwise known as hot metal or molten iron, where the total scrap charge comprises from 15 to 35 percent of the iron-bearing raw materials.

We are particularly concerned with section 304, which requires a Federal procuring agency to "give preference in procurement to items produced with the highest percentage of recovered materials practicable," and with section 306, which specifies that a minimum of 50 percent of certain materials—including ferrous metals—used in the performance of Federal contracts worth \$1 million or more be produced from recycled materials.

Senator BAUCUS. I have to ask you to wind down, Mr. Boltz.

Mr. Boltz. Accordingly, AISI recommends that sections 304 and 306 be amended to acknowledge the fact that fundamentally different processes are often used to produce the same product.

On behalf of AISI, thank you very much for the opportunity to appear here today.

Senator BAUCUS. Thank you.

Next, Mr. Shea.

#### STATEMENT OF WILLIAM H. SHEA, VICE PRESIDENT, OPERATIONS, U.S. POLLUTION CONTROL, INC., FORT WORTH, TEXAS

Mr. Shea. Good morning, Mr. Chairman and members of the committee. My name is Bill Shea, and I am the Vice President of Operations for USPCI. I am pleased to be here today to discuss how we manage industrial waste.

USPCI, Inc. is a wholly owned subsidiary of the Union Pacific Corporation and is an integrated national industrial and hazardous waste management company with over two decades of experience in the environmental field. USPCI manages industrial waste in a number of different ways. Sometimes this waste is disposed of in



one of our hazardous waste cells, but most often it is managed in one of our industrial waste cells. The minimum design standard for our industrial waste cell is close to the design standard for a hazardous waste cell under RCRA criteria. At a minimum, our cells are built from the ground up and consist of two 60 mil synthetic liners, two leachate detection collection and removal systems. We have provided a hand-out of our cell design to the subcommittee so you can better visualize the composition. These cells are also subject to groundwater monitoring.

We also require and maintain a number of operating records associated with the management of industrial waste, which include documentation of the quantities and volumes of waste received, maintaining a manifest or bill of lading for each load received, pre-acceptance analysis of the waste to ensure that it is industrial waste, and a dimensional grid of the cell to plot the location of the waste within the cell.

As part of our formal testimony, we have provided the committee with a document which goes into greater detail about the operation and maintenance of our industrial waste cells, along with a document explaining our waste acceptance procedures.

Why do we build and operate our facilities to these standards? There are two basic reasons: (1) industrial waste if managed improperly can be just as harmful to the environment as hazardous waste; and (2) our customers want this type of management to help protect them from any future liability associated with the mismanagement or insufficient management of these waste streams.

Mr. Chairman, we've prepared a list of some of the industrial wastes that we manage and have submitted it as part of our testimony. Most of these wastes can be damaging to the environment when put into an unlined or substandard landfill. However, with no existing Federal minimum technology requirements for industrial landfills, this can and does happen.

Our concern with industrial waste is not necessarily industry or waste-type specific. Many industries produce waste classified as nonhazardous even though it may contain hazardous constituents at concentrations equal to or greater than concentrations in waste that is considered hazardous. Such wastes are produced by a variety of industrial processes and remedial actions and pose a risk to the environment only when managed improperly. It is the mismanagement of industrial waste, not necessarily the wastes themselves, that represents the greatest risk.

Short of a complete revamping of the RCRA hazardous waste classification system, we believe it would be better to establish technical requirements for industrial waste disposal that provide the requisite protection required. This type of protection would require groundwater monitoring; synthetic liner systems; leachate detection, collection, and removal systems; and operational and management procedures which would ensure the proper and safe management of industrial waste.

We also build and operate our facilities in this manner because our customers require it. Industry today is very cognizant of the potential Superfund liability associated with industrial by-products. By using a technically advanced facility, generators reduce the

likelihood of becoming a PRP in a Superfund clean-up or having to pay for a future remediation project.

This type of liability protection is realized in a number of ways. First, generators have an interest in using a financially stable waste management company. Because of the joint and several liability associated with CERCLA, if a generator chooses a company that goes out of business, the generator may end up being the only "deep pocket" left to fund the remedial actions at a poorly managed facility. As a Union Pacific Company, USPCI offers the type of financial stability most generators are looking for. Second, and most important, because of our design standards, our compliance programs, and our environmental monitoring programs, the chances of a generator being exposed to future clean-up liabilities are significantly reduced.

Mr. Chairman, nonhazardous waste produced by industry can be just as problematic as hazardous waste to both the generator and the environment. Many companies now realize this, and we at USPCI will continue to use advanced technology to help ensure the protection of human health and the environment and to safeguard our customers against unwanted liability.

Mr. Chairman, this concludes my comments. I would be happy to answer any questions.

Senator BAUCUS. Thank you, Mr. Shea.

I am wondering if we could get some consensus, some agreement on ways to handle the problem here. As many of you have indicated, we're dealing with large volumes here; it varies in its toxicity; and it is very complex; some of this industrial waste is not hazardous, it does not contain nearly as many contaminants or is as toxic as others; it is to a large degree unregulated, although some States are beginning to move. Could you just generally—some one take a stab at it—begin to define what you think the panel can agree on. Some of you represent a more environmental conservation perspective, others industry. I hear kind of a thread through all of this that there is a problem; it is complex; we've got to deal with it and solve it, but we have got to do it in a solid, forthright, and direct way so as to not create more of a problem than we've got with moving too quickly, too comprehensively, too uniformly.

Mr. Lennett, you raised your hand first, then I'll get to Mr. Cardillo next. If we can just begin to get some kind of agreement as to how to address this.

Mr. LENNETT. Where I think there is some level of agreement is the concept of targeting your program in a refined way. We've made the mistake in the past of giving EPA broad delegations of authority—go out, do the job—in a general way and the product has been unacceptable and we've had to redo things. It happened in 1984 and we don't want to have it happen again. So I think there is general agreement that we should focus on the facilities that we think are posing the greatest risks first. That's one of the areas of agreement that I think exists.

Senator BAUCUS. Stop right there. Mr. Cardillo, what do you think?

Mr. CARDILLO. Yes, we should focus on that. But I think the real problem, Senator, is who is going to do the focusing. I think—

Senator BAUCUS. That is whether it is EPA or the States or—

Mr. CARDILLO. I think what we do need is a partnership. I don't think we can afford for either to do it by themselves. But I believe that, assuming where the high priorities are, from this vantage point, the States—

Senator BAUCUS. There are two questions raised there. One is what are the highest priorities, and, second, who is going to be making decisions. Those are really two separate questions.

Mr. CARDILLO. Yes, they are.

Senator BAUCUS. Let's take one at a time. Let's take first—on the panel here, what do you think the highest priorities are?

Mr. Shea.

Mr. SHEA. Mr. Chairman, I think that the highest priority is to get some type of Federal minimum tech requirement for new industrial cells that are going to be built so that we have the protection in the environment going forward. The States could then implement the program and on a site-specific basis adjust. But we would have at least a base consistency.

Senator BAUCUS. But in real terms, affecting real people and real environmental problems, what's first?

Mr. Lennett.

Mr. LENNETT. I think the highest priority are land disposal facilities accepting wastes other than those that most reasonable people would agree are relatively benign, like sand and gravel, which I believe was one of the wastes you mentioned at the beginning of the hearing as not warranting immediate attention. Land disposal facilities generically pose the greatest risk. There is a lot of information in the Report to Congress—

Senator BAUCUS. You put land disposal facilities on top. What would be second in your hierarchy?

Mr. LENNETT. I actually haven't developed a second tier yet because I think that's a big enough project.

Senator BAUCUS. Is there agreement among the panel that land disposal facilities deserve the greatest attention?

[General agreement indicated.]

Senator BAUCUS. Okay.

Mr. DERNBACH. Senator, if I could add just one thing. A real concern for us is that there are facilities not only in Pennsylvania but in other States that are not well managed, do not have permits, and then there are facilities that are better managed. My sense would be to look immediately at facilities that don't have permits where you can do the most good. I think that's a little different, looking at it from a permitting point of view, than focusing on the facilities that right now pose the most risk.

Senator BAUCUS. I think Mr. Lennett had an interesting suggestion that the most acute problems should be handled more immediately, and he indicated that the Federal Government should step in with groundwater monitoring and some other provisions while the delegation to the State is phased in. Is that an approach that seems to have some semblance of reasonableness?

Mr. DERNBACH. That's consistent with the regulatory program that we're developing. The point I want to make is to make sure that the people who are disposing of waste tomorrow and the next day are doing so in a proper manner, and that there are things

that you can do fairly quickly that would do a lot of environmental good besides simply looking at existing facilities.

Senator BAUCUS. Very briefly, could you comment on provisions of S. 976; whether you like them or don't like them, you agree or disagree, and why.

Mr. DERNBACH. Very, very briefly, I think that S. 976, by simply recognizing that industrial waste is a problem, goes a long step in the right direction. I think our concern is there is a lot that's asked for in a very, very short period of time and we're not at all sure that that's appropriate.

Senator BAUCUS. You think the phase-in is a little too tight?

Mr. DERNBACH. Yes, the phase-in is a little too tight, much too tight.

Senator BAUCUS. Do you agree, Mr. Lennett, or not?

Mr. LENNETT. Yes, I would agree in part because I don't think the bill targets the resources sufficiently, and I also think it assumes EPA is going to issue rules in two years, which I can tell you is not going to happen.

Senator BAUCUS. Mr. Dernbach, or anyone else, your reaction to Mr. Lennett's suggestions of groundwater monitoring, site characterization, closure, collective action, he had a list of several things that he thinks should be implemented quickly.

Mr. DERNBACH. I think there are two ways to look at this. You can look at the existing facilities and past practices, and you can look at what people are doing tomorrow and the next day and the day after that. It seems to me that one thing you can do in fairly short order is make sure that people who are disposing of waste at new facilities, in a very short period of time after RCRA goes into effect, are doing so in compliance with certain minimum standards.

My emphasis, I guess, is more on that and a little less on the corrective action side. But I do agree with David that groundwater monitoring and site assessment are appropriate.

Senator BAUCUS. I am going to turn to Senator Chafee in just a second. But, if you'd be very brief, Mr. Cardillo.

Mr. CARDILLO. Briefly, good programs, Senator, are going to take time. We've got to prioritize what we want to get at. We want some fast results. I think we need some State regulations. But I think we need a shift in our emphasis from hazardous waste to industrial nonhazardous. We have to shift the emphasis.

Mr. BOLTZ. Just back with that same thought. EPA has drawn a distinction between hazardous waste and non hazardous. When we use the term "industrial waste," you have to keep in mind that these are by definition nonhazardous. There is a continuum of hazardousness when you talk about industrial wastes as a group, and EPA has gone through a very intense process of deciding that there is a line of demarcation between hazardous waste and nonhazardous. So the focus now is on what is the proper way of managing non hazardous industrial wastes. I believe that there is a different set of regulations that could apply, there are a different set of management standards not as rigorous as what would otherwise apply to hazardous waste.

Senator BAUCUS. Okay. Mr. Lennett, I don't know if I understood you before. You said you would kind of like a dialog on the panel here—

Mr. LENNETT. Yes, and I'm not getting one either.

Senator BAUCUS. I'm surprised that you're not.

Mr. LENNETT. Let me respond to my industrial colleagues. It is not the case that because something is legally non hazardous that it is nonhazardous. As the attorney who is litigating cases against EPA for failing to list or identify wastes as hazardous, I can tell you personally that there are many wastes out there for which listing determinations have not been made. There are many hazardous constituents that are not covered by the existing hazardous waste characteristics. So it is a fallacy to say that because we are not legally regulating something as hazardous now it is somehow less risky than what we are regulating as hazardous.

Now there is diversity within that industrial waste area; there's no question about that. But there is also no question that some of those materials should have been regulated as hazardous but may never be because we simply are not going to have the resources at the Federal level to go out and do listing determinations for every industrial process in the United States.

Senator BAUCUS. Then what's the solution?

Mr. LENNETT. The solution is to target the industrial waste program as best you can for the facilities that pose the greatest risk, make sure those facilities are designed to deal with that risk, and provide in those cases where you think there are less risks, a limited opportunity on a site-specific basis to prove that a facility poses less risk. But the presumption should be that a facility will be designed like this gentleman [pointing to USPCI witness] designs his facility, and if someone wants to do something less than that, he has the burden, on a site-specific basis, to prove that his waste and the facility's hydrogeology somehow deserve less consideration.

Senator BAUCUS. What do you think, Mr. Dernbach?

Mr. DERNBACH. Well, I basically don't disagree that industrial wastes ought to be regulated in a fairly stringent manner. The system that we're putting together is going to require a lot of industrial waste to go to a double liner facility comparable to that for hazardous waste facility, some of it is going to go to a single liner facility, and some amount of it—I don't think terribly much—will be allowed to go to unlined landfills if it is innocuous in the way that you've described earlier. But in terms of requiring leachate treatment and groundwater monitoring and that kind of thing, that's all part of our program.

There are so many facilities out there, and the State programs are at different levels of progress. A lot of folks have spent a lot of time on hazardous waste, some States are very interested in municipal waste. Some State industrial waste programs are pretty good, some are not as good. I think it is important, Senator, as you indicated earlier, to be realistic about how much can be achieved.

So while I don't disagree with David, my concern is in making sure that we focus early on where we can do the most good and try and create timetables, if you will, for other requirements that can be implemented in a proper manner.

Senator BAUCUS. Okay. I want to turn now to Senator Chafee. Thank you very much.

## OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. Thank you, Mr. Chairman. I have a statement that I'll submit for the record.

[Senator Chafee's statement follows:]

### OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

This morning's hearing focuses on two very important issues—hazardous waste recycling and industrial waste.

For several years, many of us have heard about the unscrupulous practice of sham recycling. One basic form of sham recycling occurs where a person claims they are producing a legitimate product in a manufacturing process when in fact, they are simply treating, storing, or disposing of hazardous waste and hazardous waste treatment residues.

This situation can arise because RCRA refers to the treatment, storage and disposal of waste as opposed to the use of raw materials in a manufacturing process. The problem is that legitimate recycling activities often involve elements of both manufacturing and waste management. Therefore, when it comes to recycling activities—sham or otherwise—the seemingly bright line between what is a waste and what is a raw material leaves the issue of RCRA's jurisdiction subject to feats of semantic gymnastics.

Unfortunately, the current regulations allow, and some would argue even encourage, these gymnastics by providing for selfimplementing jurisdictional exemptions from RCRA.

Because these exemptions are completely self implementing and there is no requirement to notify EPA of the owner or operator's decision that he or she is exempt from RCRA, dangerous sham recycling operations are occurring as we sit in this hearing today.

Another serious problem with the current regulations is that for those recycling operations that fall within RCRA's jurisdiction, EPA only regulates transfer and storage activities. In a 1980 rulemaking, EPA claimed it was deferring regulation of the recycling process itself for a later time, yet after more than a decade, EPA has still not issued these regulations. When Administrator Reilly testifies next week, I will be interested in knowing whether EPA has plans to issue these regulations any time soon.

At least two bills before us address this issue—S. 976 (the Baucus-Chafee bill) and S. 982 (the Chafee bill). The goals of these two bills are the same: (1) to encourage legitimate recycling activities; (2) to discourage dangerous and unlawful waste management disguised as recycling; and (3) to clarify EPA's authority and responsibility to regulate potentially dangerous hazardous waste recycling processes under Subtitle C of RCRA. The differences between the bills are fairly technical and I will be interested to hear what the witnesses have to say about these bills as well as a bill on the same subject introduced by Senator Warner.

The second topic for discussion today is industrial waste—RCRA's sleeping giant. Industrial waste includes an estimated 7.6 billion tons of waste produced each year that does not fall within the purview of RCRA's Subtitle C hazardous waste program. The billions of tons of industrial waste produced each year dwarfs the 300 million tons of hazardous waste and 200 million tons of municipal waste generated during the same time frame.

Despite this fact, there are no minimum Federal requirements for the management of this waste stream. Industrial waste regulation has been left to the States, and while some States have model industrial waste regulations, other State standards do not adequately protect human health, groundwater, and other natural resources.

Although much of this diverse waste stream apparently is not hazardous, it does include significant amounts of hazardous wastes that, for one reason or another, are exempt from the hazardous waste regulations.

A 1990 report by the General Accounting Office (GAO) found that the vast majority of industrial waste is currently handled in surface impoundments. Unfortunately, the GAO also found that of the surface impoundments studied, few had even minimum design features to protect against or detect releases of waste into the environment and that several surface impoundments reported the presence of unauthorized releases.

Compounding these problems is the fact that the EPA does not have a good data base on the waste characteristics of this waste stream.

Given the huge volumes and apparent toxicity of at least a portion of this waste stream, this reauthorization effort needs, at the very least, to require EPA to collect basic industry information and to impose certain minimum environmental controls for treatment, storage and disposal facilities handling industrial waste.

I look forward to working with the Chairman on both of these issues. Thank you.

Senator CHAFEE. Just write down these statistics—you may be familiar with them all and in the course of the morning, I missed the first part, you may have addressed these. There's 300 million tons of hazardous waste, and that we regulate on the Federal level; there's 200 million tons of municipal solid waste, that we're trying to deal with in the RCRA bill before us; there's 7.6 billion tons of nonhazardous industrial waste. Even for somebody from Washington, 7.6 billion is a lot.

[Laughter.]

Senator CHAFEE. Several years ago we did the title C, the hazardous waste part, and that I guess everybody will acknowledge has gone along pretty well. But one of the points that was made here yesterday when we had testimony is whatever you folks do, if you're going to put a new burden on EPA, make sure you give them the staff and the money to do it. But at the same time, nobody is suggesting around here that we're going to be able to do that—give EPA the extra staff as we put duty after duty on their backs. So when we get into this industrial waste business, we're really embarking in a big, new area for us, meaning the Federal Government, with limited resources. I, for one, want to do something about it but I am just not sure how to proceed.

Now you, Mr. Lennett, have suggested that the first place to tackle are the landfills; is that correct?

Mr. LENNETT. Land disposal facilities. That would include surface impoundments, waste piles, and land treatment units as well. I think the number of facilities are in the teens, twenty thousands, something like that.

Senator CHAFEE. One suggestion has come up as one way we might get the resources for EPA is to have some Federal permit fees that would help generate some resources for EPA. What do you think of that?

Mr. Cardillo, you made the mistake of having your eyes up, so—

[Laughter.]

Senator CHAFEE. Basically, at law school I always remember, never look up.

Mr. CARDILLO. I'll never do that again.

[Laughter.]

Mr. CARDILLO. Senator, we don't have a filled-out position on raising the resources to attack this problem, but if we do use taxes or fees, we hope they are restricted to the uses that we want to accomplish. Second, we should be careful about the burdens that we are loading on U.S. industry.

Subtitle C is an expensive program. If we go that way with subtitle D, almost no matter how we pay for it, it is going to be quite a burden. We need an articulated program that uses a range of controls so that we don't do that.

Senator CHAFEE. How about you, Mr. Lennett?

Mr. LENNETT. We're strong advocates of the permit fee. As you know, that was the approach you took in the Clean Air Act last year. We think the only way the States and EPA are ever going to get the resources they need to implement this program, is to have a nongeneral revenue-based funding source so that State legislatures are not tempted to cut budgets in significant ways in tough times. A permit fee is the only means administrators of the regulatory programs can be assured that they will have a consistent staffing and funding level to do their jobs on a year-in-year-out basis.

Senator CHAFEE. In Pennsylvania, Mr. Dernbach, it is my understanding that you require a groundwater monitoring at industrial waste facilities, including those facilities that manage construction and demolition debris.

Mr. DERNBACH. That's right.

Senator CHAFEE. Yet, I think most people would assume that when you've got construction and demolition debris that it is probably nonhazardous. Why do you spend your time and energy and money on that?

Mr. DERNBACH. Well, that's part of the answer, Senator. We actually regulate construction and demolition wastes at landfills under our municipal waste regulatory program. The program is set up so that construction and demolition debris can go either to an unlined facility or to a single lined facility, not to the double lined facility that other municipal waste is required to go.

Groundwater monitoring is a good thing because there are lots of different constituents that wind up in construction and demolition wastes. We have seen various kinds of hazardous chemicals from time to time being "cocktailed," if you will, with construction and demolition waste and groundwater monitoring is a good way to identify that. That's an extreme example, but we think it is important to find out what's going on in the groundwater.

Senator CHAFEE. Well, Mr. Chairman, I must say that one of the problems of having these hearings is that it makes the problem all that much more difficult as you go along. Sometimes ignorance is bliss. As we started out on this, I thought that we'd move ahead with the RCRA reauthorization, but every time we get a panel we see more problems. When are these hearings going to end anyway?

[Laughter.]

Senator BAUCUS. You're not going to like what I'm next going to say. There's good news and bad news. First, an observation, and then the good news.

It reminds me, you may have heard of a book written many years ago about law school by Lewellyn, who was a Columbia law professor. In the preamble to the book, he has a little poem that's called "The Bramble Bush." The poem essentially is to the effect that he jumped into the bramble bush and scratched out his eyes and he couldn't see, his problems got more difficult, so then he jumped back into the bramble bush and he scratched his eyes back in again so he could see. We're not going to have that many more hearings; we're not going to scratch our eyes out.

Senator CHAFEE. That's the good news.

Senator BAUCUS. That's the good news.

Senator CHAFEE. I'm braced for the bad news.



Senator BAUCUS. The bad news is sometimes you have to dig in more deeply to get to see. No, there is only one more hearing next week. Then we get to the bad news, which is trying to solve it by writing bill.

I have one question of Mr. Lennett before we leave here. You said that the existing State programs are inadequate. Does that include Pennsylvania?

Mr. LENNETT. I'll try to be gentle here. Pennsylvania is in the midst of an effort to substantially upgrade its regulations. So, if you ask me the question as of today, the answer is yes, Pennsylvania's program is inadequate because they haven't developed final rules based on those recent efforts. Will Pennsylvania's program be inadequate a year or two from now, my answer will probably be certainly less inadequate than many others. I haven't performed a complete analysis of Pennsylvania's rules to determine whether I'm perfectly comfortable with them; but certainly Pennsylvania, after they get through their package, will be further along than most.

Senator BAUCUS. Don't forget that perfection is sometimes the enemy of the good.

Mr. LENNETT. Right.

Senator BAUCUS. So I mean is it good? Even though it is not perfect, do you think in a couple of years it will be good?

Mr. LENNETT. Yes, I do.

Senator BAUCUS. Okay, Mr. Dernbach?

Mr. DERNBACH. One thing to add to what David said, and that is what we're finding since we put out the most recent round of regulations for comment. A lot of folks are designing facilities based on the proposed regulations. We were out the other day to four different facilities for industrial waste, all of which are built on one or two liners, and that's all as a result of the proposed rulemaking. So even though the regulations are not yet in place, we are already seeing significant improvements in the program.

Senator BAUCUS. Would the panelists feel comfortable with the direction that Pennsylvania is headed, where Pennsylvania probably will be in a couple of years?

Mr. CARDILLO. Senator, Texas has a good industrial waste program.

Mr. CARDILLO. Yes, I've read Mr. Dernbach's provisions. I think it's a good program.

Senator BAUCUS. Mr. Boltz.

Mr. BOLTZ. Yes. We operate several major facilities in Pennsylvania, and we are in the midst of a major permit application process for an industrial waste landfill. I agree with John that when we designed the landfill, we took into account, even though they weren't duly promulgated yet, the new regulations. The provisions are being enforced.

Senator BAUCUS. So you think it is a good program?

Mr. BOLTZ. I think it is a good program, particularly when we as industry have to go to the public to defend our proposals for the landfill for industrial waste. The public is interested in protection and they would like to see the state-of-the-art landfill design.

Senator CHAFEE. Just one question, if I might. Yesterday we had testimony from Clean Water Action, which was a group urging

that there be a moratorium on the construction of incinerators to the balance of this century. They made two points, and none of us would disagree with the points. One, that we want to encourage greater recycling in the country, and everybody would agree with that I think. Their goals were quite high; they were talking in the neighborhood, as I recall, of 70 percent recycling, which I think the best evidence we had was in Japan; they are doing about 50 percent with all the regimentation they have and the basic agreements and policies they have there.

The other point that they were making—again, everybody agrees with—is don't produce the stuff to start with to the greatest of one's ability. In other words, we're just generating too much hazardous waste to begin with. How does that work in real life with the members of your CMA? If somebody has got a new plastic that's being developed and a bright chemist that works for one of your member companies comes up with just the right thing but the one little hitch to it is that its lethal in every respect in the waste stream, not in the use of whatever it might be, is there any incentive at all for that person to say, gee, maybe we shouldn't do this because of the downstream effects?

Mr. CARDILLO. Yes, Senator, there are several incentives, powerful incentives. For instance, in the toxic characteristics that make some wastes hazardous, there is a strong incentive to reduce the constituent so that you will avoid that classification.

Let me give you another incentive.

Senator CHAFEE. Why? Why is there an incentive? I mean, if I'm a member of CMA, Super Chemicals, Inc., and I am suddenly producing this new ingredient that I'm going to sell to DuPont or somebody who is making plastic and it is really wonderful what it can do—it is transparent and it's splendid—but the only trouble is that it is highly toxic, why would I care?

Mr. CARDILLO. Well, liability laws force you to care. We look at the downstream uses of our products and how they are probably going to be disposed of. It is dangerous not to do in this country. Liability is a constant theme.

Senator CHAFEE. If I produce a chemical that becomes part of an ingredient that makes a plastic bottle and subsequently the plastic bottle is toxic, there's a liability back to me?

Mr. CARDILLO. Liability can reach pretty far if you're selling something that's misused and harms people, yes it could.

Senator CHAFEE. There's no harm to the user of the container, it is just when it disintegrates it's—

Mr. CARDILLO. Yes, but you know of the reach of the Superfund liability, it is quite extensive and may reach back to us.

Senator CHAFEE. I can understand that it would have to follow the Superfund disposal rules, no one is arguing about that—I mean, if you just threw it in an ordinary landfill, there would be liability; I can clearly understand that—under Superfund there is a system of disposing of these.

What I am saying is there any incentive for the companies that are eventually going to purchase this to say, no, this is a great product and it breaks new ground, but it is highly toxic and therefore I don't want to fiddle with it.

Mr. CARDILLO. There is another incentive, a general incentive. You're familiar with the SARA 313 reporting requirements. Those reporting requirements apply to hazardous and nonhazardous wastes, for instance; they cut across both. And companies have a strong incentive to minimize their toxic emissions, which are recorded in SARA 313, and their toxic transfers. The numbers are up on the board whether we put it into a landfill at one of our plants or ship it to USPCI. The TRI does show toxics going into solid waste. We have an incentive to reduce that. We do try to reduce it in both classes of wastes.

Senator CHAFEE. Well, I guess my real question is do you find from your experience in dealing with your member companies out there that there is an effort being made not to produce this stuff to start with, that is the highly toxic stuff?

Mr. CARDILLO. Yes, I do, Senator, very definitely. We have a Responsible Care® Code of Management Practices that's a condition of membership in the CMA; it is a part of that code. Now I will also tell you this though, the business of redesigning processes and complicated products takes time and there is a wave that's got to move back through process engineers, design engineers. It is going to take time to do it all, but it is being done and the more egregious cases I think are being worked now.

Senator CHAFEE. Well, for instance, one of the real villains of the piece is mercury from all of the testimony that we have. This isn't the first time we've had that, as you know, we've had lots of testimony about mercury and the persistency of it. It is pointed out that mercury is an ingredient in batteries. Is anything being done that you know of to get rid of mercury, get substitutes for mercury, for example?

Mr. CARDILLO. I don't know anything about that, Sir.

Senator BAUCUS. Okay. Thank you very much, Senator.

Thank you panelists very much for your testimony.

#### HAZARDOUS WASTE RECYCLING

Senator BAUCUS. We will now turn to the next subject, hazardous waste recycling.

First, Senator Wirth of Colorado I understand is here. What I would like to do, Senator, is have you come to the table in addition to the other panelists and you could stay as long as you want to stay, be involved in this discussion, or whatever, as your other duties permit.

I will bring the other panelists up right now. Richard Fortuna, Executive Director of the Hazardous Waste Treatment Council; Edgar Marston, Executive Vice President, Southdown, Inc., in Houston; Karen Florini, Senior Attorney, Environmental Defense Fund; and Sam Goldberg, Cochairman, Business Recycling Coalition, New York.

Senator I apologize for the delay. We got a little involved in non-hazardous industrial waste. We are honored to have you here. I know you have a very important issue you want to address.

Why don't you proceed?

**STATEMENT OF HON. TIMOTHY E. WIRTH, U.S. SENATOR FROM  
THE STATE OF COLORADO**

Senator WIRTH. Mr. Chairman, thank you very much. I will be very brief regarding a very simple, straightforward problem which I think can be resolved in the RCRA reauthorization bill. First of all, I want to thank you and Senator Chafee and the committee for undertaking this unenviable task of rewriting RCRA. I know how complicated that's going to be, but you are moving expeditiously and carefully and you have our great respect and support in that effort.

We have a problem that has emerged in northern Colorado, Mr. Chairman, related to the burning of hazardous wastes in cement kilns. These cement kilns obviously were not originally designed to be for disposal of hazardous materials; they were located, they were sited, permitted, and so on on the basis of one function. There have now been two permits, subsequently withdrawn, to burn hazardous waste in these cement kilns.

There is great concern in the communities surrounding them so much that when these two applications were submitted, in three small towns in northern Colorado, more than 16,000 citizens signed a petition saying, Hey, wait a minute. These cement kilns were originally designed for the purposes of being cement kilns, now there are applications that they be used for the burning of hazardous materials. Let's not allow them to do that until we have a chance to understand what the impacts may be, both from the burning of hazardous waste in the cement kilns, from the handling of hazardous materials in cement kilns by companies that aren't originally designed to do this kind of work, and then what happens if the cement kilns don't work on a steady basis. There are a number of health concerns.

I have introduced legislation simply to provide a moratorium until the EPA has a chance to look more clearly at this situation beyond the Boiler and Industrial Furnace standards; a two-year moratorium to have a chance to look at that, either to have the EPA or an outside agency like the National Institutes of Health, or whatever, to take an examination of this to see what the impacts may be.

This is really looking at a problem that appears to be emerging but is not yet a problem. No hazardous materials are currently being burned. The two applications have been withdrawn by the two companies, so we're not stopping the handling of hazardous materials. We are just saying this problem looks like it is coming down the line and what we'd like to be able to do is to have a moratorium until we really understand what the implications may be.

The EPA has, in response to part of the problem, developed the Boiler and Industrial Furnace Regulations. It is felt by people in the community and many in the public health area, including the State Department of Health, that these regulations probably are not adequate for dealing with the problem of hazardous materials in cement kilns, and the State would like to have an independent evaluation.

So that's where we are—a relatively simple problem in anticipation of an issue. We're not burning any of these materials at this point.

Senator BAUCUS. I appreciate that, Senator. Do you know the degree to which cement kilns, not only in Colorado but nationally, are considering burning hazardous wastes?

Senator WIRTH. Apparently, there is a good deal of interest in doing this. I can't speak to what is happening outside the State of Colorado, except to the fact that we have heard from communities in six or eight other States about the moratorium legislation and their concern. But I cannot tell you that I know outside of the three communities in Colorado how widespread the problem is.

Senator BAUCUS. Are there hazardous waste facilities in Colorado that burn hazardous waste, that is certified sub C hazardous waste facilities?

Senator WIRTH. Yes, there are. These would be in addition to those facilities.

Senator BAUCUS. I was just curious as to roughly how many?

Senator WIRTH. I can't tell you what the volume is on this sort of thing.

Senator BAUCUS. Okay. Thank you very much.

Senator CHAFEE. Could I just ask. Senator, I'm missing a beat here. As I understand it, in Colorado, where obviously you are particularly concerned, they've made a request and withdrawn a request to burn the hazardous materials.

Senator WIRTH. That's true.

Senator CHAFEE. And so what are you asking us?

Senator WIRTH. We're saying can we put a moratorium on the permitting of this for two years while we carefully understand what the implications are of burning hazardous materials in cement kilns, effectively in furnaces that were not necessarily designed to do this. Communities involved do not feel there is enough data on what happens with cement kilns that were originally licensed and located for the purposes of cement to burn hazardous materials often very close to residential neighborhoods. They are saying we don't have enough information.

Senator CHAFEE. They are worried about the emissions and the ash both?

Senator WIRTH. That's exactly right. The emissions, the ash, and the handling of those materials by companies that are designed for purpose of making cement. The companies were organized to do that and are now moving into the business of handling hazardous materials.

Senator CHAFEE. You mean the tail is wagging the dog, in some instances. They are more hazardous waste disposers than they are cement—

Senator WIRTH. They may or may not be. I'm not saying that. Some of these are very large companies with a lot of experience in the making of cement but not necessarily in the handling and disposal of hazardous materials. Communities are saying here are the potentials for significant public health hazard in our own backyard; let's better understand it.

Senator CHAFEE. Our problem in this, as you know, is that these people—and let's assume that some of them are doing it correctly—are disposing a good deal of hazardous waste.

Senator WIRTH. In the State of Colorado, none is being disposed of at this point. They've withdrawn the application and it is not happening.

Senator CHAFEE. Is your moratorium on those that are not doing it, or those who are doing it now?

Senator WIRTH. It would be a moratorium on further applications at this point.

Senator CHAFEE. But if they are doing it now, that wouldn't be covered?

Senator WIRTH. I don't think we could reach back like that. I think that would not be something that would be possible to do.

Senator CHAFEE. Okay, fine. Thank you very much.

Senator BAUCUS. We would like to have you stay as long as you can.

Senator WIRTH. I believe that the Interior Appropriations bill is over here, and I'm going to bounce over to that.

Senator BAUCUS. Let me just give you a chance to respond, if you care to, to a point I believe Mr. Marston may make later on in your absence that this—

[Laughter.]

Senator BAUCUS. I don't want to put words in his mouth, but I think largely he is going to say that this is a "twofer," you get to have your cake and eat it. That these kilns burning hazardous waste saves us a lot—I think his testimony says 168 million gallons of oil and a million tons of coal—a year, which is good for the country. I think he is also going to say that the EPA's new boiler and furnace rules are pretty stringent. So I just thought that, if you care to, we'd give you an opportunity to respond to that.

Senator WIRTH. I don't disagree if those are the numbers on oil saved and coal saved. I am not about to disagree with that. That's not the point here.

Senator BAUCUS. What about the boiler and furnace rules?

Senator WIRTH. The concern was that the Boiler and Industrial Furnace rules were established with a different set of goals in mind. We now are in a situation with cement kilns burning hazardous wastes. You have cement kilns that are not designed to be working with the kind of efficiency and a continuing no problem of burning. Concerns that a number of communities have expressed is what happens with the cement kilns which have an off/on burning history? What happens when they are not burning as efficiently as they can burn? What do you do with all of the emissions that then come out of the cement kilns?

If the cement kiln is working very well, the hazardous materials are being burned. If the cement kiln is down and burning less efficiently, and these cement kilns have the history of doing that, then the hazardous materials aren't being burned efficiently, aren't being entirely disposed of, there are significant emissions coming out. The communities see those, in fact, and can smell those coming out and they say, Hey, wait a minute. This is not the kind of full efficiency that a facility designed precisely for hazardous material disposal would be doing.

Now, let's look at that problem and see if, in fact, that is as significant a problem as these communities believe it is. The State is also looking at this, very concerned about what the impact may be. The Boiler and Industrial Furnace standards are designed for one thing; we're now talking about doing something quite different. Before we embark upon that, let's understand what the public health implications may be.

Senator BAUCUS. Thank you.

Senator CHAFEE. Senator, did you say a two-year moratorium?

Senator WIRTH. A two-year moratorium. We might have the study done before that period of time.

Senator CHAFEE. Do you realistically believe that the public is going to be reassured at the end of the two-year period?

Senator WIRTH. I think that it is appropriate for those concerned about public health issues to have the information on this, Senator Chafee. You and I are both very familiar with situations where there is always a "not in my backyard" mentality on just about anything that goes on, and we understand that. But it seems to me we have a responsibility to make sure that if, in fact, hazardous materials are going to be burned close to neighborhoods in facilities that weren't initially designed to do this, then the public has a right to know whether or not the implications of this are going to be damaging to their health. If it is not, if there is no problem, as the companies are maintaining, let's establish that there isn't a problem and then it seems to me we've done the kind of preventive or anticipatory legislation that we ought to do.

Senator CHAFEE. All right. Thank you.

Senator BAUCUS. Just for the record, I'm just informed that, under the new rules, kilns will have to destroy toxic organic compounds at a 99.99 percent destruction efficiency, and that if they don't they will violate the rules and be subject to enforcement. I don't know where that leads, but—

Senator WIRTH. The concern is that when the kilns are operating efficiently, presumably they are disposing of the hazardous materials. But these kilns are not designed to burn all the time and have histories of being up and down. So when they are burning less efficiently, they are emitting a variety of—

Senator BAUCUS. According to the rules, they can't burn less efficiently.

Senator WIRTH. Well, the concern is that those rules are not adequate to reach this. We'll have to take a look at that, Mr. Chairman. I understand what you're saying.

Senator BAUCUS. Thank you very much, Senator.

Senator WIRTH. Thank you very much Senator Baucus, Senator Chafee, thank you.

Senator BAUCUS. Okay. On to the rest of the panel.

Mr. Fortuna, you're next.

**STATEMENT OF RICHARD C. FORTUNA, EXECUTIVE DIRECTOR,  
HAZARDOUS WASTE TREATMENT COUNCIL, WASHINGTON, DC**

Mr. FORTUNA. Good morning, Chairman, Senator Chafee. I am Richard Fortuna, Executive Director of the Hazardous Waste Treatment Council. The Treatment Council is the largest associa-

tion of treatment, recycling, and disposal firms committee to proper management of hazardous waste. We commend both you and Senator Chafee for having introduced legislation that would end the uncertainty over RCRA's recycling jurisdiction and for the first time establish a comprehensive system of preventive controls over waste recycling practices.

This morning I would like to make three basic points. Recycling is risky business and has left a legacy of Superfund sites throughout the country; second, today many recycling practices are little more than legal dumping of hazardous waste; and third, legislation is necessary to stop sham recycling and to ensure that all forms of recycling, legitimate and otherwise, are conducted in an environmentally sound manner.

When we hear the word recycling, very often we think of something that just has an absolute positive connotation. It summons a notion of all things good and desirable, something that we obviously want to encourage. And when we talk about solid waste recycling, it is hard to imagine anything other than wanting to encourage it—the recycling of bottles, cans, plastics, paper, and the like. But when we turn to hazardous waste recycling, there are two fundamentally different concepts and facets that give this issue an entirely different complexion.

First, hazardous waste recycling is not the mere generation of a material back to its initial form and function. Rather, it is any reuse of a waste for any purpose. It is not bottles-to-bottles, cans-to-cans; it is oil and solvents into fuels, it is metal dust into fertilizers, it is ad hoc mixtures of waste into fill materials, anti-skid materials, and, quite literally, kitchen sinks.

Second, there is simply no comparison between the toxicity of bottles, cans, papers, and plastics with solvents, used oil, heavy metals, and pesticides.

Hazardous waste recycling is, indeed, risky business, and one that in the past and present has significantly contributed to this Nation's Superfund site burden.

The Council has just completed a detailed review of the Superfund National Priority List for the contribution that recycling practices have made to this Nation's clean-up burden. The facts are interesting, if not startling. There are four attachments at the back of the testimony, Attachments A through D, which are blown up here in the graphics that summarize the findings of our survey.

Attachment A shows that 13 of the Nation's 50 worst Superfund sites were recycling operations. Ten of these are specifically ranked, two others are Federal facilities—Cal West Metals and the Pearl Harbor Navy Complex in Hawaii, and the last, Petrochem Recycling in Utah, was just proposed on the National Priority List in July of 1991.

Attachment B shows that this is not just a problem limited to the State of New Jersey. Virtually every State is affected—44 States of the 50 have at least one Superfund recycling site, with the two lead States being Florida and Pennsylvania.

Attachment C summarizes that over 239, or 20 percent, of the 1,211 National Priority List sites were due to problems that run the full gamut of recycling practices. There is battery recycling; oil recycling; solvent recycling; all forms of metal recycling; PCBs;



over accumulation—which is just storage without ever acting on the waste; drum, barrel, and pail recycling; using hazardous waste as fill and road material; reusing waste as a feedstock; reusing it as a product; and, of course, the Bevill exemption, which allows the residues from many forms of hazardous waste recycling to be considered “special” rather than hazardous waste.

Without going into a lot of detail on these various exemptions, I think it is interesting to note that used oil recycling, which is completely uncontrolled, accounts for 63 of the 239 sites. Many of these other exemptions on the list, Senator, are self-implementing, self-policing, and on the honor system. To exempt yourself for reusing waste as a feedstock or other product you simply make your own designation and require no prior agency review or determination. EPA interventions at these sites frequently occur only after the damage has been done.

Unfortunately, these are not mere historical statistics, as the vast majority of recycling practices that caused 20 percent of the Nation's Superfund sites are still uncontrolled today. Again, in chronological order according to frequency with which they caused Superfund sites—used oil recycling, unregulated; solvent recycling practice itself, unregulated; ironically, the storage of waste prior to recycling, as well as most other forms of recycling, is regulated but the actual practice itself is totally uncontrolled; metals recycling, unregulated; precious metals recycling, unregulated; and it goes on.

Senator I would also point out that—the regulations aside—as we speak, the City of Long Beach, California, is trying to get the EPA to assist in the clean up of releases of oily hazardous waste from a petroleum tank at an abandoned oil refinery. EPA has told Long Beach that they will be unable to assist them because the oily waste is potentially recyclable, therefore not a waste, therefore not eligible for Superfund. The city of Perth Amboy, New Jersey, just last week closed a drinking water well that is located adjacent to the number 2 cite on the list, CPS Madison Industries, because of an ongoing metals and acid recycling facility there that has caused ground water contamination. The City of Sioux Falls in the midst of a clean up and has shut down two groundwater wells to the City of Sioux Falls because of a precious metals recycler that indiscriminately managed their hazardous waste. And, last, on August 2, EPA issued an evacuation order to a family in Stevensonville, Louisiana, because their house was built atop Marine Shale aggregate which has released such high levels of lead as to have caused elevated blood lead levels in the children in the house.

Turning to EPA, Senator, we are far from sanguine about their ability to manage the situation. In the month of August alone, EPA expanded the exemption for secondary lead smelters, exempted coke ovens from controls that would otherwise apply, and—

Senator CHAFEE [ASSUMING CHAIR]. Mr. Fortuna, your time is up so you have got to summarize.

Mr. FORTUNA. Senator, we do need legislation to both put an end to sham recycling practices and to ensure that legitimate operations are conducted in an environmentally sound manner. We can no longer allow recycling to merely serve as a password for polluters.

Thank you very much.

Senator CHAFEE. Okay. I think what we'll do now is just take a brief recess. Senator Baucus will be back shortly. I will go over and vote. We will reconvene very shortly. If those of you at the table will just relax, we will be back shortly.

[Recess.]

**OPENING STATEMENT OF HON. JOHN W. WARNER, U.S. SENATOR  
FROM THE COMMONWEALTH OF VIRGINIA**

Senator WARNER [assuming the chair]. Ladies and gentlemen, the Chairman has asked me to resume this hearing. We are now prepared to hear from Mr. Marston. I apologize for my absence earlier but all of us have a heavy schedule today. I approach this subject with great interest and not without a little bias. I have my own bill, which you are aware of.

I have a statement that I will just submit for the record.

[Senator Warner's statement follows:]

**OPENING STATEMENT OF HON. JOHN W. WARNER, U.S. SENATOR FROM THE  
COMMONWEALTH OF VIRGINIA**

Mr. Chairman, I thank you for your diligence in proceeding with a thorough hearing schedule on the many complex issues involved in RCRA reauthorization.

The focus of the hearing today—hazardous and industrial waste recycling—is one of the most complicated RCRA issues this committee will wrestle with.

As you know, I have offered a proposal which I believe will stimulate the recycling of hazardous and industrial materials in an environmentally protective manner. It is a proposal which has been developed after extensive discussions with those directly involved in the recycling of hazardous and industrial materials.

I hope that from the information presented by the witnesses today and in further discussions with the committee that serious consideration will be given to this effort.

Mr. Chairman, I commend the direction of S. 976 in recognizing the need to require recycling goals as a responsible policy to reduce the enormous volumes of wastes currently disposed in landfills. I believe these proposals are appropriate.

I also believe that this enthusiasm for recycling of municipal solid wastes also should be given to the recycling of hazardous materials.

Initiatives to encourage the recycling of hazardous materials is consistent with the RCRA goals of minimizing land disposal and also consistent with the pollution prevention hierarchy of source reduction, recycling, treatment and disposal.

Recognizing the commercial value of these materials and the often competitive disadvantage recycled materials have with virgin materials is essential in encouraging recycling activities.

I agree that recycling activities should be more fully regulated under RCRA, but regulation should be designed based on criteria that measures the environmental risk of the recycling activity.

Regulation should not be based on the current subtitle C criteria which was specifically designed to measure the environmental risks of treating and disposing hazardous wastes.

Let me also state clearly that my interest in this issue is to ensure that the protection of the public health and the environment remains our highest priority in pursuing this proposal.

The proper management and regulatory oversight of recycling activities is necessary. Regulation can and must be done without restricting the economic incentive to recycle these materials.

I hope that information offered at this hearing and continuing efforts to refine this proposal will address the apprehensions some have about the need for a separate regulatory program.

Senator WARNER. Mr. Marston.

**STATEMENT OF EDGAR J. MARSTON, III, EXECUTIVE VICE  
PRESIDENT, SOUTHDOWN, INC., HOUSTON, TEXAS**

**Mr. MARSTON.** Good morning. My name is Edgar Marston and I am Executive Vice President and General Counsel of Southdown, Inc., the third largest cement company in the United States and the owner of one of the two cement plants that Senator Wirth referred to earlier. I am appearing today on behalf of the Cement Kiln Recycling Coalition, the Portland Cement Association, the American Cement Alliance, and the National Association of Chemical Recyclers.

Cement plants are vast consumers of energy—we consume huge amounts of coal, petroleum, coke, and in some cases natural gas, also nontraditional fuels such as tires, and, finally, both liquid and solid hazardous waste.

We're here today because we think cement kilns are the consummate recycler in the United States, and we'd like to explain why. We take hazardous waste, produce a product which is indistinguishable in the market place from material produced with fossil fuels without adverse impact upon human health and the environment. Our cement kilns are huge industrial installations valued at between \$50 and \$150 million apiece that subject significant volumes of material to high temperatures, turbulent conditions for lengthy periods of time to produce marble-sized, lava-like pellets called "Clinker". This clinker is interground with gypsum to form cement—one of the basic building materials in the United States.

Our cement must pass exacting national testing standards as well as consensus industry standards. All our cement passes those tests whether fired with hazardous wastes or traditional fuels. And this makes a lot of sense. Concrete is the glue that binds aggregates, sand and water, together to form concrete, your basic building material. It is used in multibillion dollar dams, airports, freeways. It is also used to cement multihundred million dollar offshore oil wells. People are not going to use inferior products. There is no question that we are not sham recyclers.

From the point of view of impact on human health and the environment, I think it is important to understand that the hazardous waste we burn as fuel supplements consists of two principal constituents—organics and metals. There's no question that we destroy the organic constituents of hazardous waste. We must under the boiler/industrial furnace rules. We destroy it to the detection limits. The question is do we manage metals.

We manage metals very effectively. But in order to appreciate how, you need to understand what a cement kiln does. We consume in a typical dry process plant 150 tons of material an hour—140 tons are limestone with a small amount of clay or other materials, the balance is fuel. Under the BIF rules, no more than half of that fuel can be hazardous waste. So we're talking about a hazardous waste component of slightly more than 3 percent in the total hourly loading in our cement kilns.

You also need to understand lead, cadmium, thallium, and all the other metals of concern appear naturally in the earth's crust. Hence, the bulk of the metals we have to manage in our cement kilns come from raw materials and not from our waste.

We manage metals several ways. We analyze the total input of metals into our kilns. Those metals are partitioned to three places. The bulk of those metals are partitioned to the clinker, chemically bonded into the crystalline matrix; a small amount of the material is partitioned to our cement kiln dust, when that's discarded it is a high volume, low toxicity waste stream that we're committed to manage responsibly in a way that is protective of human health and the environment; and, last, a very modest amount of metals, minute amount of metals, passes through our air pollution control equipment into the atmosphere. But here I must call your attention to this fact: We have existing industrial facilities; we are members of the air pollution grid; we do not alter in any material respect the nature of the emissions that we put into the air when we burn hazardous waste.

From a leaching perspective, our cement leaches metals at essentially the same rate whether fired with fossil fuels or hazardous waste.

In summation, I would like to emphasize that we are not here to seek relief from regulation; we are subject to regulation under the boiler/industrial furnace regulations. I disagree with Senator Wirth. Those were negotiated and promulgated and worked on for years and years and years. They are extremely comprehensive. We're subject to the Clean Air Act, Clean Water Act, MSHA, OSHA, Department of Transportation regulations. All we want to do is be recognized as a consummate recycler. We are an expensive piece of equipment that can manage part of our waste streams and, in doing so, defer the exhaustion of our fossil fuel requirements while at the same time preserving industrial jobs, which I think are essential for the short-term, immediate, and long-term prospects of the United States. To me, that is the essence of recycling. We think we should be recognized as such.

Thank you very much.

Senator BAUCUS [resuming the chair]. Thank you, Mr. Marston. Our next witness is Karen Florini.

**STATEMENT OF KAREN FLORINI, SENIOR ATTORNEY,  
ENVIRONMENTAL DEFENSE FUND, WASHINGTON, DC**

Ms. FLORINI. Thank you, Mr. Chairman. I am Karen Florini, Senior Attorney with the Environmental Defense Fund. Also joining in my testimony this morning are the Natural Resources Defense Council, Greenpeace, Sierra Club, U.S. Public Interest Research Group, and Environmental Action.

We commend the sponsors of S. 976 and their staffs for addressing the complex issue of hazardous waste recycling, which is one of the highest priority matters for Congress' attention during RCRA reauthorization. Before turning to that topic, I want to stress that in our view the management of hazardous secondary materials, whether those materials are recycled or discarded, ranks below toxics use reduction in the hierarchy of environmental desirability. We strongly urge the committee to include toxics-use reduction provisions in crafting an overall RCRA reauthorization package, for reasons alluded to by Senator Chafee previously.

At least in the near term, however, we will need stringent management standards for all hazardous secondary materials—both those disposed of and those recycled.

One fundamental point warrants emphasis at the outset. Poor-quality recycling is no better, and often much worse, than high quality disposal. While recycling of hazardous industrial waste provides important environmental benefits in terms of reducing demand for primary materials, those benefits can be more than counterbalanced by environmental releases of toxic constituents if recycling is handled poorly.

As detailed by other witnesses this morning, recycling is not *per se* benign. This is true both for legitimate recycling, where beneficial products are made from secondary materials, and sham recycling that is conducted for the primary purpose of evading subtitle C requirements. It is also crucial that recycling regulations not create perverse incentives for increasing the number and concentration of toxic constituents that are found in products that are made with secondary materials.

Before turning to specifics, let's look very briefly at some key points about the RCRA subtitle C program today.

First, as detailed in my written testimony, EPA seldom issues significant RCRA regulations in the absence of a court order or a statutory hammer. For example, in March 1989, EDF sued EPA over some two dozen unmet RCRA mandates, most of which were from the 1984 HSWA amendments. In response, EPA asked the court to adopt a schedule that would have deferred compliance with some deadlines until the year 2004—20 years after the enactment of HSWA. The court declined to adopt this schedule and a settlement is now pending.

During the litigation, we obtained some remarkable materials demonstrating that EPA officials expressly instructed Agency staff to abandon work on many tasks shortly after the relevant statutory deadlines had come and gone. Clearly, simply enacting statutory deadlines is a bankrupt strategy for securing prompt regulatory action. By contrast, however, EPA met most statutory deadlines for provisions that carried hammers.

Neither bureaucratic inertia nor a lack of resources is entirely to blame. The hostility shown during the last decade by the Office of Management and Budget to environmental regulations shows no signs of tapering off; indeed, as a member of the EPA Office of General Counsel staff stated in an ABA presentation last year, the relationship between EPA and OMB is now worse than at any time in the past half-dozen years. Regulations are routinely delayed and returned for reanalysis in a clear and all too successful strategy of "paralysis through analysis." Part of the problem is also limited agency resources. Congress must take account of these factors in determining how to address hazardous recyclables.

But the most important objective of all is achieving clarity. For over a decade, controversy has raged about EPA's jurisdiction over recyclables. Lawyers have profited; the environment has not. Enough is enough.

Turning to S. 976, we think there are several highly positive components in section 405, including use of a hammer approach and the requirement of notice by facilities that claim to be exempt.

However, the approach taken in section 405 raises numerous concerns. First, it apparently presumes that EPA will write a major new set of regulations for recyclables. But why should EPA's limited resources be spent in this manner, except to as needed to tailor existing regulations to recyclables? To the extent that section 405 is intended to allow for such tailoring, we believe it is far preferable to provide that existing regulations become fully applicable to hazardous secondary materials, including recyclables, 24 months following enactment, and to allow EPA to use its existing general authorities under section 3004 to tailor management standards as, and if, needed.

We also oppose the open-ended permit by rule provisions. They cannot be applied on a broad-brush basis, although they may be appropriate for relatively few types of fairly simple facilities.

Turning next to S. 982, we commend Senator Chafee for his leadership in developing an alternate approach on this difficult issue. In our view, the general approach taken by that bill is a potentially useful mechanism for clarifying the jurisdictional issue.

My time has expired. I would like to end by saying one thing very briefly. This is not the only issue in subtitle C that warrants the committee's attention. There are numerous other shortcomings in the existing regulatory program. We very strongly urge the committee to hold additional hearings in order to explore this complex and extremely important program more carefully.

Senator BAUCUS. Thank you, Ms. Florini.

Next, Mr. Goldberg.

**STATEMENT OF SAMUEL GOLDBERG, PRESIDENT, INCO UNITED STATES; COCHAIRMAN, BUSINESS RECYCLING COALITION, NEW YORK, NEW YORK**

Mr. GOLDBERG. Thank you Mr. Chairman and Senator Warner. I am President of Inco United States, Inc. One of our subsidiaries, INMETCO, located in Western Pennsylvania, recycles wastes from the specialty steel industry. I have here an example of our primary product. [Holds up nickel-chrom-iron alloy pig.] I have asked Mr. Reiter to put it in the record but he declined.

I am here today as Cochairman of the Business Recycling Coalition. We do not have a staff or a Washington office; we are simply an ad hoc group of more than 45 individual firms and trade associations involved in industrial recycling—not municipal recycling. Our message to you is very simple. Industrial recycling should be regulated as recycling and not as waste treatment and disposal.

Recycling is an industrial process, not a form of waste treatment. Materials sent for recycling are destined for productive reuse and not for disposal. They should be regulated under separate rules in RCRA that acknowledge this fundamental difference, and encourage rather than discourage recycling.

Unhappily, under RCRA today, recycling is not being encouraged. It is being treated as a subcategory of waste treatment and disposal. That is why we are so very grateful for your efforts to enact significant improvements in RCRA. And, yes, we dare to hope that what comes of all of this will be a Resource Conservation

and Recovery Act that finally encourages resource conservation and recovery.

Mr. Chairman, we do not underestimate the difficulty of the task, but we urge you to take the long view and put RCRA in proper balance. Set up a separate subtitle to govern recycling. This will restore what we all agree is the optimal environmental scheme of things; and that is, in the first place, generation of waste must be reduced. What can not be reduced must be recycled. And what cannot be recycled must be treated and disposed of. We all agree to that.

Let me be clear on two other points. First, we do not seek to escape regulation. On the contrary, we favor a firm and unambiguous regulatory regime, one that fully protects human health and the environment, but a regime that is designed for industrial recycling and is not burdened by inappropriate rules meant for waste treatment and disposal. Hence, a separate subtitle.

Second, we share your views regarding sham recycling. You have our full support in assuring that treatment and disposal operators masquerading as recyclers are regulated for what they actually are.

Mr. Chairman, a separate subtitle for recycling is imminently doable. Senator Warner's bill has one approach, and for that reason we favor his bill over the other two. In my written testimony, our Coalition has provided you with our own legislative approach. I am aware that there are those who reject the notion of a separate subtitle on the grounds that EPA would take forever to promulgate the new regulations. We believe this objection is unfounded. Most of the necessary regulations already exist under RCRA. They need only be adapted for use in the new subtitle. To be sure, some new regulations will still have to be promulgated, but certainly they can be completed in reasonable time.

Mr. Chairman, as you develop this legislation, it is important that you consider it in the context of real life—America's market economy. Recyclers, like other businesses, must compete in the marketplace. We must take our lumps if we don't measure up, and fold if we can't compete. We embrace this principle and we'd have it no other way. But if it is cheaper for our customers to send their wastes to be landfilled rather than to be recycled, they will do so. And if it is cheaper for them to buy virgin materials rather than our recycled materials, they will do so. That's real life.

In the same context, it should be noted that there is a lucrative business in waste treatment and disposal. It is a business which understandably seeks to discourage recycling in favor of its own interest. That, too, is real life. We do not believe, however, that this would also be in the interest of this country.

Finally, Mr. Chairman, let me say that we have had serious discussions with committee staff and with representatives of environmental groups on all of these issues. All of us came away impressed by the commonality of views on the basic objectives, and the observation was made that if all interested parties were to sit around one table, a bill could be hammered out that really served the American people. Mr. Chairman, we are at your service and stand ready to work with you to that end.

Thank you for this opportunity to testify.

Senator BAUCUS. Thank you very much, Mr. Goldberg.

One of the basic problems we have here, regardless of which approach is taken, is the problem of classification; that is, which category does this particular product or process fit into. We have a problem now, obviously, in subtitle C and subtitle D—hazardous, nonhazardous, solid waste—and it often requires us to put a square peg in a round hole; sometimes they just don't fit. That's the problem here.

Now whether it is the bill that I've introduced along with Senator Chafee, S. 976, or whether it's Senator Chafee's bill, S. 982, or whether it's Senator Warner's bill, we're still going to face the same problem of classification. Because under S. 976 we set up, if you will, a sub C category and also a super D, and we're still going to have to decide on when is this product or process a C or a D, or a sub C or super D.

The same will occur under Senator Warner's bill.

The first question would be, is this in the new subtitle? And where within the new subtitle are we. Whether it is by statute or by regulation, there is going to be differences even within a new subtitle. Or under Senator Chafee's approach, when is this product or process in or out, and so on.

So we basically, to a large degree, are all trying to find a solution to the problem of the different approaches; but the fact is in a real sense they're not all that different. And it is analogous to tax law. Two of us here are on the Finance Committee, and the big tension in tax law is between equity and simplicity. Tax laws get more and more complex out of desire to be more equitable—because this situation is a little different from that one, we're trying to be fair so we treat that different situation a little differently; it causes complexity rather than simplicity.

Mr. GOLDBERG. Your tax simplification certainly has.

Senator BAUCUS. That's correct. In a desire to be more equitable.

Here, we have the same tension between simplicity, on one hand, and kind of effectiveness, on the other. The solution is not easy. So I am just wondering, within the committee bill, S. 976—because we're going to have to make decisions anyway regardless of the approach taken—what's wrong with S. 976 just so long as the sub C and the super D make sense? I'm begging the answer here to my own question; assuming an answer here. But what's wrong with that?

Mr. GOLDBERG. It would be difficult to answer in great detail; we've done it in the written testimony. But put very briefly, what is wrong is that you lump together a production operation, namely a recycling production operation—that should be treated as if it were a primary manufacturing operation dealing with hazardous and nonhazardous material and be subject to all of the rules—and you identify it with waste treatment and disposal, which is a totally different function. One creates a product, the other is a service.

Fundamentally, your bill, Senator Baucus, acknowledges the merits of recycling—and we're grateful for that and I think we all agree with that—but in acknowledging it, it then sets it as a subcategory of waste treatment and disposal and a variety of things spring from that, including—



Senator BAUCUS. I understand the theory but in practice a lot of these processes or products are not in a neat, tidy way either "recycling" only or "waste treatment" only. That's the heart of the problem here. There is no nice, neat, tidy box. It is a little complex; there is some overlap here. I am trying to address reality by recognizing the overlap.

Mr. GOLDBERG. When we recycle a product, everything that comes out of it is either a product or is then sent to waste treatment and disposal and identified as "waste" for what it is. But you can't lump it all together as being waste at the outset.

Senator BAUCUS. But it's recognized as a recycling process. My legislation recognizes it, which you do.

Mr. GOLDBERG. Yes, but then you put it under the other rules.

Senator BAUCUS. That's not the intent.

Mr. GOLDBERG. It's the effect.

Senator BAUCUS. Well, let's see what we can do with that.

My time has expired.

Senator CHAFEE [ASSUMING CHAIR]. Senator Baucus has some obligations, so you go ahead.

Senator WARNER. Thank you, Mr. Chairman. Again, I appreciate the contributions of all here this morning. I think that we've got to help the recycling industry because it is really fighting a myriad of problems out there. I agree with you that you do produce a product as opposed to a service.

My question to the panel is as follows. What we're endeavoring to do in recycling is to preserve America's natural resources and at the same time try and improve our environment. My question to each of you is how would you equate the risks associated with recycling, in terms of the environment, as opposed to waste disposal?

Why don't we start off with Ms. Florini.

Ms. FLORINI. As I said in my statement, Senator, bad recycling is probably worse than good land disposal. Without those adjectives in there, I don't think it is meaningful to make it as a statement.

Senator WARNER. If you wish to restate the question in your own way—I'm just trying to ascertain from the standpoint of the environment, and we're all desirous of trying to protect our environment, and I think most Americans would like to preserve their natural resources. So is there a manner in which we can work through the equation?

Ms. FLORINI. Yes, there is a hierarchy. Good recycling is better than disposal. On the other hand, how do you evaluate recycling that isn't good? Sometimes, often, it is much, much worse than good disposal.

The essential point here is that we have to find a feasible mechanism for instituting controls quickly—we've had over a decade of regulatory wrangling with a lack of good controls in place. The question is how to go forward, where do we go from here. My view is very, very strongly that it is not appropriate to simply tell EPA that they need to go create a new subtitle because they don't have the resources to do that in a sufficiently timely basis.

Senator WARNER. You mean they don't have the dollars and people to do it?

Ms. FLORINI. That's exactly right. I've just conducted some extensive litigation over EPA's failure to meet a number of statutory

deadlines from the last RCRA reauthorization in 1984. What we found in that litigation was quite chilling. The Agency simply is not able to go forward with major new regulatory programs in a timely fashion. That is why we urge that the recyclables be brought into the existing regulatory regimen and that, to the extent that EPA determines it is in fact necessary, that they make modifications to accommodate recyclables.

Senator WARNER. Don't you think it is fair that it be treated in a manner different than waste?

Ms. FLORINI. No, absolutely not.

Senator WARNER. That's a clear response to the question. I hear what you say.

Ms. FLORINI. Toxic constituents of hazardous secondary materials are there regardless of whether you're going to go forward and dispose of that material or whether you're going to go forward and recycle it. I think trying to disregard that is unwise and ultimately futile in the long run. You can't fool Mother Nature about the toxicity of toxic constituents when mishandled.

Senator WARNER. All right. Mr. Goldberg, if you've got some thoughts.

Mr. GOLDBERG. Let me say this about that. This contains toxic materials. [Holding up metallic pig.] It contains—

Senator BAUCUS [resuming the chair]. Why don't you describe what it is. What is it?

Mr. GOLDBERG. This is a lump of remelt alloy of iron, nickel, and chrome. It is the essence of stainless steel. It is taken from stainless steel and specialty steel by-products in the form of flue dust and something called "swarf" and oily grindings, a variety of things. It is processed through an electric arc furnace that recovers nickel, chrome, and iron and it is then sent right back to the stainless steel industry to be reused again—not to be disposed of and not to be dealt with irresponsibly or otherwise.

It is a fact of life that stainless steel contains these properties; you can't make it otherwise. So we propose that you recycle it. What comes beyond that is a variety of other things that are then sent for further recycling or for responsible disposal. That's the essence of the process. It is more complex than that, and I am over my head in the technicalities of it.

But that's the distinction between our view and Ms. Florini's. That is, she feels it must all be dealt with as waste to be absolutely safe. We feel that's not real life. We feel it can be done responsibly by identifying recycling for what it is and waste disposal—which comes after recycling—for what it is.

Senator WARNER. Mr. Fortuna.

Mr. FORTUNA. Senator, I guess to answer your first question, the citizens of Perth Amboy, New Jersey, last week had two of their drinking water wells closed because of toxic releases from an improperly operating recycling facility, CPS Madison Industries. The people of Atlantic City have had their drinking water wells closed down for many years because of leakages from Price's Pit. I don't know that the citizens of Perth Amboy feel a heck of a lot better about the fact that their contamination was caused by a recycler versus a pit disposal.

The other point I would like to make is that the value of the product produced from recycling—oftentimes people somehow relate the fact that because there is a valuable product produced from recycling, which in many cases there is, that somehow diminishes controls or offsets the environmental damage that occurred. There are any number of examples, and precious metals is a particularly good one because there is no question but that they produce a valuable product. But Film Recovery, Inc., in Chicago, the people of that operation recovered silver from film strips, were indicted for murder. The people of Sioux Falls are cleaning up a precious metals reclaimer right now.

So I just don't think there is any way to distinguish between the environmental damages caused by bad recycling and—

Senator WARNER. We assume that we're going to have some controls on this and learn from the past wrongs. At the same time, bearing in mind what Mr. Goldberg says is the real world, there is some dollar point at which everybody is going to fold his tent on recycling if you push it too far.

Mr. FORTUNA. Well, Senator, that's an interesting point. I think it would behoove some folks here at the panel to perhaps look back in the record of when EPA promulgated their first regulations back in 1980. There was a threshold question at that time of how do we deal with recycling. The response at that time was, well, we should not regulate beneficial recycling but we should control bad recycling. That's probably the only cut they could make then. Looking back, it looks kind of haphazard but that was 12 years ago.

But if you look in the record of people who commented on those regulations, there was a hue and a cry from every solvent recycler, acid recycler, you name it, saying you're going to put us out of business. What has happened? What we've had is now finally a more environmentally sound operated solvent recycling industry—the solvent recycling industry is flourishing not diminishing—but we have eliminated some of the shabby or less than—

Senator WARNER. My bill does put in the controls. I am not suggesting you give them a license and let them go.

Yes, sir?

Mr. MARSTON. My focus is somewhat limited, Senator. We're subject to mammoth regulation under the boiler/industrial furnace regulations and virtually every other environmental legislation in the United States. We believe, however, that we do recycle. We believe that there is a tangible benefit for our product being labeled as a product of recycling in the market.

I think often times people here don't realize the incredible pressures that we undergo all the time in the context of the permitting process—which is appropriate. If you're going to locate a facility in an area, you should have mammoth public participation. But I think we engage in bona fide recycling and I think—

Senator WARNER. My time is up. I appreciate that and I thank the indulgence of the Chair and the Vice Chair.

Senator BAUCUS. Thank you, Senator.

Senator CHAFEE.

Senator CHAFEE. Thank you, Mr. Chairman.

First, I would like to ask Mr. Goldberg, in your testimony, Mr. Goldberg, you talked about being opposed to "sham" recycling.

Mr. GOLDBERG. Yes, sir.

Senator CHAFEE. Do you think sham recycling can be identified rather easily?

Mr. GOLDBERG. Rather easily, no.

Senator CHAFEE. Well, okay, but you think it can be identified?

Mr. GOLDBERG. I would be happy to expound on that just a bit.

Senator CHAFEE. Sure.

Mr. GOLDBERG. We wrestled with that, Senator, and we understand the taint that goes to legitimate recyclers because of the sham recycling. We feel, in a proposal which we've presented to the subcommittee, that we have a formula which together, with all of its ingredients, does that. It doesn't do it easily, but it does distinguish sham recyclers from legitimate ones. Perfection, we can't guarantee.

Senator CHAFEE. You were present when Mr. Fortuna presented his charts here with the lists of recycling Superfund sites. If I remember what he said correctly, I believe he said over 200 recycling sites are now on the Superfund list; is that correct, Mr. Fortuna?

Mr. FORTUNA. Yes, sir.

Senator CHAFEE. Which indicates that whatever has taken place in the past as far as regulation hasn't been adequate. What do you say to that?

Mr. GOLDBERG. I say I'm glad you asked that question. I wanted to respond to that. Mr. Fortuna is quite correct in listing all of these things—though I don't know where he gets his numbers; I won't dispute the 200 among the many, many that are on the National Priority List. What he is describing, Senator—

Senator CHAFEE. I think on the National Priority List is something between 1,100 and 1,200.

Mr. GOLDBERG. Right. So you are talking about 200 out of those. I don't have the list and I have not been able to analyze it, but I won't dispute it because the issue is on the merits and not on how many were or were not recycling. This is a list that we all deplore. We don't take responsibility for it. The Superfund sites, as we all know, were sites that developed from the past and from activities that occurred before—Let me read to you from something we submitted. "For the most part, these sites have been included on the NPL because of activities that occurred before the hazardous waste regulations under RCRA were adopted and at a time when there were few, if any, restrictions on the handling and disposal of hazardous waste." He's talking about what occurred before, not after, RCRA regulations were put into place. Though, who knows, there may have been some disposal problem that occurred afterward.

Beyond that, let me just say that recyclers, manufacturers, waste disposers, all contributed to the Superfund sites of the past. Your job is to create something that clearly doesn't let that be possible, and RCRA had that as its objective. But beyond that, to do so in a way that doesn't lump everything together as waste disposal. You can't drive a nail with a fly swatter and you shouldn't try to kill a fly with a hammer. You have to distinguish between the processes and the objectives in them and still do it with responsible regulations that apply to each.

Senator CHAFEE. Let's switch now to Mr. Marston. You heard Senator Wirth's testimony earlier. I start out sympathetic to Sena-

tor Wirth's proposal, but then I say to myself, well, is the permitting process such now that people are not adequately protected. That seemed to be the implication of Senator Wirth's request for a two year moratorium. What are your views on that?

Mr. MARSTON. Well, sir, from a person who spends a lot of time on the local permitting scene, I think the local citizenry is well protected in this process. The boiler/industrial furnace regulations are comprehensive.

He mentioned irregular operating results. If we miss several operating parameters, there are automatic cut-offs for the introduction of hazardous waste into our kilns. We believe that there are exacting requirements. We have trained our people carefully. We believe that in order to have permits issued we are going to have public hearings; for those who sought interim status under the boiler regulations, you had to publish your intention in the paper. We think local participation is terribly important and we think it is adequately provided for in the current regulatory scheme.

My personal concern about a moratorium of any type is simply that we're deferring to another generation the consumption of goods that we're—we're consuming goods and burying stuff in landfills or other places that may cause problems down the road. It seems to me we ought to be on a "pay as you go" basis and manage this waste as it's generated, both industrial and municipal waste.

Senator CHAFEE. What about in the cement kiln business, how careful are they in screening the hazardous wastes they burn? Getting back to the question I asked Mr. Goldberg about identifying a sham recycler.

Mr. MARSTON. I see that as two questions. I'll answer the one on scanning first. Our materials are first exhaustively analyzed at the fuel blending operation, they are shipped to our cement kilns. We spend on average \$750,000 to set up a laboratories to screen the materials. We have exacting permit requirements in all the air permits at our cement kilns. Mercury was mentioned yesterday. One of our cement plants has a mercury spec of 1.4 parts per million. We have to test every load to assure that we meet that exacting specification. So I think we certainly have tremendous control over the hazardous waste and the characterization of the waste that flows into our kilns.

Senator CHAFEE. "We" being who? Who is "we"?

Mr. MARSTON. Southdown.

Senator CHAFEE. That's your organization. You're not speaking for the industry, you're speaking for your company?

Mr. MARSTON. I am speaking for Southdown and I am also knowledgeable of other participants in the industry. Those that I know engage in similar testing procedures.

This is of real concern to the citizenry, and there are some waste streams that we cannot and will not take at Southdown. If we can't meet BDAT on the waste stream, we won't accept it. There are metal plating waste streams that we will not allow to be included in our hazardous waste fuels.

Senator CHAFEE. One final question if I might, Mr. Chairman. Mr. Fortuna, you heard Mr. Goldberg's response to the Superfund recycling sites. Do you have any comment on what Mr. Goldberg stated?

Mr. FORTUNA. I have a few comments. I guess the first thing I'd do is I know a good RCRA 101 course I could recommend to him. To assert that somehow the 1980 regulations protected us from all recycling practices is just pure nonsense. The plain evidence of the regulations right now, which we included in our testimony, is that used oil recycling is not regulated, solvent recycling is not regulated, metal recycling, precious metals recycling, on and on. The very practices that created the vast majority of this Nation's Superfund recycling sites are not regulated today under RCRA. Those regulations passed over recycling; they didn't know how to deal with it then and we have never come back to it sense.

So while the Superfund list may be indicative of problems caused by recycling, they are occurring yet again today. Let's talk to the citizens and the people in Long Beach, California; in Sioux Falls, in Perth Amboy, in Morgan City, Louisiana, who are dealing at this very moment with cleanups of improperly operated recyclers today. This is not a problem of the past; it is a problem of the present and the future unless we have legislation that clearly establishes a preventive system of controls over recycling operations.

Senator CHAFFEE. Do you want to reply, Mr. Goldberg?

Mr. GOLDBERG. You bet. What Mr. Fortuna is talking about is improper disposal of materials, of materials that have somehow escaped the regulations; whereas, the recycling process itself needs control, to be sure—we're not arguing that point—but he is making an analogy that since it needs regulation and since it needs to be controlled, control it his way—as disposal not as recycling.

I don't defend any of the things that have been discovered where there is excess. I am only saying that it is wrong and somewhat simplistic to lump it all together because of the people that he has cited whose groundwater has been tainted. He's giving an analysis that isn't a balanced one. We need regulation. We need to regulate recyclers. We want to work with you on that. We favor it. We want unambiguity. But we don't want and we should not be treated as waste treaters and disposers.

I can't believe—just one final word—that you can equate putting something forever in the ground, with all the effects of leaching and everything else, with an operation which seeks to get the hazardous materials out, reuse them, and responsibly dispose of the remainder. They are two different things and they should be treated differently.

Senator CHAFFEE. Okay. Thank you very much, Mr. Chairman.

Senator BAUCUS. Thank you.

Let me ask Mr. Fortuna and Ms. Florini. Do you agree that there should be a moratorium on cement kilns burning of hazardous waste?

Ms. FLORINI. I think there are a number of very important shortcomings in the—

Senator BAUCUS. Should there be a moratorium?

Ms. FLORINI. Because of the number of shortcomings in the boiler/industrial furnace rules, I think that is an appropriate route.

Senator BAUCUS. Mr. Fortuna.

Mr. FORTUNA. No, we would not support a moratorium, Senator. I am sympathetic to Senator Wirth's concerns because there cer-

tainly are a number of very serious deficiencies in the boiler/industrial furnace rule, and that's why we have joined with the Sierra Club and numerous other environmental groups to challenge those rules which allow the residues from cement kiln burning or burning in any other industrial furnace or boiler to be virtually exempt from controls. The proof of performance is in the trial burn, to make sure you meet four nine's as soon as possible, rather than the indefinite future. Those deficiencies need to be addressed, but not a moratorium.

Senator BAUCUS. Okay. Is it your belief that all recycling operations that have a hazardous waste component should be regulated under subtitle C—regulation either under C or with regulations as stringent as C?

Mr. FORTUNA. Absolutely. The environmental——

Senator BAUCUS. You say yes.

Mr. FORTUNA. Yes. Yes. The environmental damage is indistinguishable.

Senator BAUCUS. What about Mr. Goldberg's point that there are some of those products within the recycling process—I mean, do you go so far as to say the closed loop process should also be included under C?

Mr. FORTUNA. In our testimony, we outline a proposal to make a clear jurisdictional distinction between those forms of recycle and reuse that are so integral to our manufacturing process——

Senator BAUCUS. Now we're getting somewhere. In your view, what are some operations that should not be under C? I used the closed loop as an example.

Mr. FORTUNA. If one can demonstrate that they are engaging in a closed loop process that is not putting waste in the ground in open tanks.

Senator BAUCUS. That's one. What else?

Mr. FORTUNA. And direct reuse of wastes as products and feedstocks, provided that you can demonstrate that you're not throwing in other toxic constituents along for the ride that are not being reclaimed, that you're not engaging in significant releases to the environment in the process, that you are not engaging in speculative or long-term storage and de facto disposal. So I think there are some reasoned exemptions to make the distinctions between manufacturing-related reuses and waste management-related reuses.

Senator BAUCUS. All right. Let me ask Mr. Goldberg for your response to that classification.

Mr. GOLDBERG. I don't know precisely what that classification was, but the items that he mentioned deal with responsible handling of materials. We favor that but under a separate subtitle so that it deals with recycling and not waste treatment and disposal. It is not a disposal problem. That distinction is very important to us because we are tainted and we have a problem if we are deemed to be producing products that are part of hazardous waste treatment and disposal. We are not.

Ms. FLORINI. Mr. Chairman, if I could respond to that very briefly.

Senator BAUCUS. Go ahead.

Ms. FLORINI. I think we are getting to the nub of the matter. Is the question one of semantics or is it one of substance? Mr. Gold-

berg just said they are tainted if this material is handled within the rubric of subtitle C. I think one of the things that should be considered is simply changing the name of subtitle C to refer to all hazardous secondary materials and not merely a hazardous waste.

But the question that is fundamental here and is of the key importance is what are the management standards that are being applied. If you are going to set up a different regulatory regimen, why? What's the rationale? Some of the provisions in the existing regulations may be irrelevant and they simply wouldn't end up being applied. But in terms of the hazardous secondary material components, constituents, the handling and storage and transportation—what is the rationale for a different set?

Senator BAUCUS. Let me ask this question and—

Mr. GOLDBERG. Let me just answer that. The rationale is that one encourages recycling and the other discourages it.

Senator BAUCUS. That's the question I was going to ask. Wouldn't a system that is as stringent as the one that you are suggesting tend to discourage recycling?

Ms. FLORINI. If it discourages bad recycling, that is a good thing.

Senator BAUCUS. Wouldn't it also tend to discourage good recycling?

Ms. FLORINI. Why?

Senator BAUCUS. Well the argument would be—and Mr. Goldberg can state it better than I—that it would be so costly, you would be catching up within the system legitimate recycling and subjecting that to unnecessary costs, which would be a discouragement.

Ms. FLORINI. If, in fact, it can be demonstrated that certain provisions are, in fact, unnecessary to protect human and health and the environment, then those are the kinds of provisions that I would suggest EPA can and should modify. But they don't need to go out and create a entirely new subtitle in order to have that ability. They have got that existing authority at present.

The question is really what do you take as your default? What do you start from? I am saying that, because of the extraordinary limitations on the Agency's regulatory resources, we have to start from where we are, as opposed to from a clean slate.

Senator BAUCUS. Well, let me ask—

Mr. GOLDBERG. One final comment. We're not proposing an altogether—

Senator BAUCUS. I doubt it is a final, but go ahead.

[Laughter.]

Mr. GOLDBERG. When she said creating an altogether new subtitle, what we're talking about is putting it over here and taking the applicable regulations that exist and adapting them to the subtitle. Separate waste treatment from recycling.

Senator BAUCUS. Frankly, that's what I am trying to do. Maybe there is a better way of doing so, but in S. 976 we set up these categories, as you know, Mr. Goldberg, which is probably one reason why you are forthright and strenuous in your comments. But the bill presently places scrap metal, black liquor, and batteries into this sub C category. The super D category would include used oil, unlisted sludges, chemical by-products, paper, plastics, glass, and so forth.



I would just like to ask the panel generally whether that, in your view, is a correct hierarchy of priorities that meet realities, or not. Maybe scrap metal should be not a sub C but a super D. I don't know if that makes a difference. I am just curious to your reaction.

Mr. FORTUNA. I think your question, Senator, makes the point. A separate subtitle doesn't get you anything because the threshold question that your bill and Senator Chafee's bill address is making the distinction between such exempt manufacturing reuses that are so integrally related to manufacturing as to be exempt, and those that are effectively waste management and must be regulated. A separate subtitle just shuffles the deck, rearranges the deck chairs, it doesn't solve the fundamental jurisdictional question.

You have to rely on a more objective delineator, such as closed loop recycling, so that—

Senator BAUCUS. I understand that, but what is the answer to my question?

Mr. FORTUNA. Regarding whether the bill correctly categorizes—

Senator BAUCUS. That I just listed.

Mr. FORTUNA. I think it is a good question in the sense that it forces us to look at what standards would you vary. Would you not want to have financial responsibility? Would you not want to have secondary containment as you have under subtitle C? Would you not want to have proper closure? I think most of the provisions in subtitle C were not just put in there as arbitrary appendages for the sake of hassling entrepreneurs; they were put in there to prevent more sites being added to the list here. I think that equally applies to scrap metal recycling, to all the things you properly classified. And I would add that I think, of the things you mentioned, used oil certainly needs to be included within the subtitle C regime. Of all the recycling sites that have made the greatest contribution to Superfund, they are used oil recycling. There is no basis whatsoever to make a separate cut for used oil recyclers.

Where I think a distinction may be made, and perhaps this addresses part of Mr. Goldberg's concern, is with regard to the products of recycling. Recycling is unique in the sense that it produces a product. It is the same as waste treatment in the sense that it produces a residue. To the extent that those folks are concerned that the label of "hazardous waste" would still apply to the reclaimed product that does not apply to the ground—such as solvents or metal ingots or whatever—I think that's a legitimate concern and that's something that needs to be remedied.

Senator BAUCUS. I'm sorry. We're kind of running out of time here.

Senator CHAFEE. Mr. Chairman, I just wanted to ask one quick question—I don't dare say the final question—of Ms. Florini. I would like to get back again to the point of Senator Wirth's request for the moratorium which, as I understand in answer to Senator Baucus' question, you said you supported. It just troubles me a little bit because to have a moratorium suggests that the regulations that are currently imposed through the permitting process are not adequate; otherwise, why have a moratorium. There must be something wrong. Yet, Mr. Marston indicates that he feels the permitting process is quite thorough, there is the right of the indi-

viduals/community right to know, and so forth. So why do we need a moratorium?

Ms. FLORINI. Well, I prefaced my response by saying "in light of the substantial limitations and flaws in the boiler/industrial furnace regulations." There is——

Senator CHAFEE. You are saying there are substantial flaws?

Ms. FLORINI. Yes.

Senator CHAFEE. Under the present permitting process?

Ms. FLORINI. Yes.

Senator CHAFEE. So then it follows you want a moratorium?

Ms. FLORINI. Yes.

Senator CHAFEE. If one accepts that point, which I assume Mr. Marston does not.

That's all I have. That's my final question.

Senator BAUCUS. Just following up on that point, it is a question that I asked earlier of Senator Wirth—this is an EPA Fact Sheet, assuming it's factual. It says that boilers and industrial furnaces are required to control emissions—this is under new regulations—toxic organic compounds by a 99.99 percent destruction and removal efficiency standard for constituents in the waste by limits of stack gas carbon monoxide concentrations; and, in specific situations, a limit on hydrocarbon concentrations of stack gas controls, and in chlorinated dioxinate furon emissions, and also particulate matter to a level of .08 grams per DSCF, whatever that means. And it goes on. Is that inadequate?

Ms. FLORINI. I think that "99.44" actually was an old ad for Ivory Soap. But a key problem in the Boiler and Industrial Furnace regulations since they've been promulgated is that they don't actually kick in with the trial burn requirements, which are what everything you just mentioned attaches to, for an extraordinarily long period of time for some facilities. And I would say——

Senator BAUCUS. Like how long?

Ms. FLORINI. I think up to 10 years.

Mr. FORTUNA. Whenever EPA calls the final permit, which could be——

Senator BAUCUS. We have a little agitation over here.

Senator CHAFEE. I didn't understand. What's the 10-year business? Could you say that again, Ms. Florini?

Ms. FLORINI. Actually, Mr. Fortuna is currently engaged in litigation on that and I think may be able to give a more detailed response on it.

Senator CHAFEE. In other words, EPA says the burn must be 99.99 percent pure. Now what's your answer to that?

Mr. FORTUNA. When, and if, it is ever conducted.

Senator CHAFEE. When what's conducted?

Mr. FORTUNA. The trial burn to prove that the facility meets the standards that it is supposed to meet.

Senator CHAFEE. You are saying these are standards but they don't apply them?

Mr. FORTUNA. No. We are saying it may be up to a decade before we ever know whether the facilities out there burning actually can meet those standards.

Senator BAUCUS. Now wait a minute. When Congress enacted the hazardous waste treatment standards, you were given 10 years; isn't that correct?

Mr. FORTUNA. In the 1984 amendments, we supported deadlines for facilities that would lose interim status within three years if they failed to submit so much as a permit application, let alone conduct a trial burn. So EPA has basically allowed the deadlines to roll almost indefinitely before the firms prove that they can meet the standards that say that they must.

Senator BAUCUS. Mr. Marston.

Mr. MARSTON. I think they are talking about calling in our Part B permits. Many incinerators operated for many, many years under interim status. We just completed a \$750,000 stack test at our plant in Fairborne, Ohio. It is conceded by everyone to be the most comprehensive test that has ever been done on a thermal treatment unit. We're following that with a \$250,000 risk assessment. It is costing us \$1 million to comply—and we have complied—with the spirit and the letter of the Boiler and Industrial Furnace regulations. We intended to do that at every plant where we run a pre-compliance test. These things are enormously expensive. We are not going to go through a drill; we're going to address every issue in the Boiler regulations. I think that's a red herring, myself.

Senator BAUCUS. We have to determine whether these regulations do the job or do not do the job, that's basically the question.

Okay. Thank you very much for your testimony. It has been a helpful hearing.

The hearing is adjourned.

[Whereupon, at 12:20 p.m., the subcommittee adjourned, to reconvene at the call of the Chair.]

[Statements submitted for the record follow:]

#### PREPARED STATEMENT OF JOHN C. DERNBACH

Chairman Baucus and members of the subcommittee, my name is John C. Dernbach. I am special assistant in the Bureau of Waste Management of the Pennsylvania Department of Environmental Resources (DER). DER's statutory responsibility is to implement Pennsylvania's environmental protection and resources management programs. My primary responsibility is the development and implementation of our municipal and industrial waste regulatory programs. I appreciate the opportunity to share Pennsylvania's experience in developing and implementing an industrial waste regulatory program.

"Nonhazardous" industrial waste—industrial waste that is not legally hazardous under Subtitle C of the Resource Conservation and Recovery Act (RCRA)—is the sleeping giant in this reauthorization of the Act. The Subcommittee is to be congratulated for addressing this issue, not only in this hearing but also in S. 976. My statement outlines the environmental and public health problems associated with industrial waste, and the issues that we have faced in our industrial waste program.

While Pennsylvania is by no means the only State with an active industrial waste regulatory program, our perspective is useful because we have a large population and industrial base, and a history of significant problems from improper management of industrial waste. Because we have a statute that requires separate treatment for industrial waste, we have had an opportunity to think about the regulation of industrial waste by itself—not as part of a regulatory package that includes municipal, oil and gas, or mining waste. The issues Pennsylvania faces are, for the most part, the same issues that face Congress and other States.

## THE PROBLEM OF INDUSTRIAL WASTE

According to Environmental Protection Agency data, more than 7.6 billion tons of industrial waste are generated annually, compared to 211 million tons of municipal waste and approximately 300 million tons of hazardous waste. Industrial waste represents at least 94 per cent of the municipal, industrial and hazardous waste generated annually in the United States. In Pennsylvania, industrial waste represents more than 62 per cent of the total waste stream. About 16 million tons of industrial waste are generated annually, compared to 9 million tons of municipal waste and 0.8 million tons of hazardous waste. These figures do not include industrial waste impoundments, however, and probably underestimate our generation of industrial waste.

Industrial waste is highly diversified. In general, industrial waste can be classified into the following categories: combustion residues, including coal ash and flue gas desulfurization residue; metallurgical process waste, including foundry sand; sludges and scales; chemical wastes; generic waste, including wood, rubber, textiles and glass; special wastes, including PCB containing wastes, and asbestos containing wastes; construction/demolition waste; and industrial equipment and scrap.

In the United States, the largest industrial waste volumes are generated by the following industries: pulp and paper, electric power generation, primary iron and steel, and inorganic chemicals. In Pennsylvania, bottom ash, fly ash and flue gas desulfurization residue from coal-fired power plants constitute at least 40 per cent of all industrial waste generated annually.

This diversity in types of waste is matched by a diversity in the type of facilities at which industrial waste is currently managed. We estimate that more than 387 facilities in Pennsylvania are permitted to dispose or process individual industrial wastes. These include 109 industrial waste landfills, 168 facilities for the agricultural utilization of industrial waste, 43 incinerators, a significant number of disposal impoundments, and a handful of other types of facilities. In addition, some 45 municipal waste landfills are authorized by permit to accept different kinds of industrial waste. The majority of the industrial waste appears to be disposed on-site. Another 1,000 or so facilities, mostly small, do not have permits.

The improper management of industrial waste presents a range of environmental and public health risks. On one hand, food processing waste, bricks, gypsum board and certain other debris from construction or demolition of industrial facilities present relatively little risk. On the other end, significant amounts of industrial waste are nearly hazardous waste, or would be hazardous waste if they were not expressly excluded under the Resource Conservation and Recovery Act (RCRA).

RCRA's division of waste into stark "hazardous" and "nonhazardous" categories—one with virtually unparalleled regulatory control and the other with almost no controls—is contradicted by our experience. Industrially generated wastes present a continuum of public health and environmental threats that do not correspond to black and white "hazardous" and "nonhazardous" distinctions.

In fact, two environmental laws adopted after RCRA recognize that many "nonhazardous" industrial wastes present significant human health and environmental risks. The scope of liability under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) extends to hazardous substances, a term which includes but is much broader than the definition of hazardous waste under RCRA. A number of significant and expensive Federal superfund sites in Pennsylvania are disposal areas solely or primarily for industrial waste. These sites include the following:

<i>Site Name</i>	<i>Estimated Cost of Cleanup</i>
Paoli Rail Yard.....	\$6-7 million
Ambler Asbestos.....	\$5 million
Palmerton Zinc Pile.....	\$20 million
M.W. Manufacturing.....	\$40 million
Aladdin Plating.....	\$25 million

In addition, Section 313 of the Emergency Planning and Community Right-to-Know Act requires the submission of reports on the release of toxic chemicals from industrial sources, a term that includes contaminants that are not hazardous under RCRA. The list of chemicals on our Toxics Release Inventory (TRI), according to a preliminary evaluation by DER staff, is comprised mostly of chemicals that are probably not hazardous under RCRA.

## PENNSYLVANIA'S PROGRAM

The Solid Waste Management Act of 1980 creates three categories of waste that require regulation by DER. These are hazardous waste, municipal waste, and residual or industrial waste. The first category, hazardous waste, received the bulk of DER's and the public's attention in the early 1980's, largely as a result of Pennsylvania's responsibility to implement the Federal hazardous waste program under RCRA. In 1988, as Pennsylvania was facing a significant municipal waste landfill capacity crisis, the State began devoting a significant measure of its attention to municipal waste by implementing a stringent set of municipal waste regulations and a statute requiring mandatory recycling across the State as well as county planning. Three years later, virtually all of our municipal waste landfills are on a double liner system comparable to that for hazardous waste disposal facilities, and more than 6 million of our citizens live in municipalities with curbside recycling programs. In the last several years, we have also been developing a comprehensive revision to our existing industrial waste regulations.

A significant reason for Pennsylvania's attention to industrial waste is the fact that the Solid Waste Management Act of 1980 specifically identifies industrial waste as a separate category that requires regulation. Under RCRA, by contrast, hazardous waste is given detailed attention, and all other solid wastes, including municipal waste, industrial waste, oil and gas waste, and mining waste, are lumped together.

Pennsylvania's industrial waste regulations were published for proposed rulemaking on February 24, 1990. These regulations represent a comprehensive revision of the State's existing industrial waste regulations, which have not been amended since 1977. DER received comments from 141 separate individuals and organizations during the 90-day comment period, and prepared a comment and response document of more than 400 pages in length. In June, because of extensive changes that were made in response to comments, particularly on the definition of waste and on groundwater protection, we decided to take a second round of comments on the changes. This second comment period ended September 4. Although the regulations discussed here are likely to be changed in limited ways before they become law, it is not too soon to share some of the basic policy questions that we have faced, and are facing.

## BASIC ISSUES IN THE DEVELOPMENT OF THE REGULATIONS

The regulations attempt to answer four questions:

1. What disposal, processing, and storage facilities should be allowed? The rule-making responds to the diversity in industrial waste and management methods by setting out proposed rules for landfills, disposal impoundments, composting facilities, transfer facilities, and the land application of industrial waste. The rulemaking recognizes more than a dozen different kinds of facilities.

2. How should these facilities be operated? Many of the operational requirements of the industrial waste regulations are based on comparable requirements in our municipal waste regulations, which went into effect in 1988. Municipal waste landfills in Pennsylvania are subject to a double liner and leachate treatment system that is roughly comparable to the design for hazardous waste disposal facilities.

At the same time, the diversity of industrial waste suggests an approach in which facility design corresponds to the risk presented by the waste. The least regulated facilities—permit by rule facilities—include those where on-site processing occurs, on the theory that on-site processing of waste presents a relatively small risk to the environment. Off-site processing facilities are subject to significantly less regulatory oversight than disposal facilities. Disposal facilities, in turn, may require two liners, one liner, or in some cases no liners, depending on the degree of risk presented by the waste disposed of at the facility.

Approaching waste regulation based on risk is preferable to basing waste regulation on the origin of waste. The leaching characteristics of coal ash, for example, vary considerably based on the coal being burned, the efficiency of the power plant, the air pollution control system being used, and the pH of the ash. In fact, virtually all other industrial wastes show the same kinds of variation. We have therefore resisted claims by the regulated community to develop separate regulations for each category of waste, or at least the largest categories.

3. What wastes should be allowed to go to specific facilities? Under DER's existing program, no waste is allowed to go to any facility without DER approval based on an analysis of the waste stream's physical properties and chemical composition, and a plan for ongoing analysis of the waste. The regulations also contain a waste classification system for assigning particular wastes to different types of disposal facilities. This system, which is based on leaching analyses of waste, is intended to pro-

vide reliable but mechanical rules to assign wastes to double lined, single lined, or unlined facilities.

4. How can the amount of waste that requires disposal be minimized? The sheer volume of industrial waste makes an obvious and compelling case for waste minimization, and the regulations respond to that in several ways.

Our Solid Waste Management Act has been amended twice in the last five years to encourage the beneficial use of industrial waste. In 1986, the Act was amended to provide for the beneficial use of fly ash, bottom ash, and boiler slag from the combustion of coal (coal ash). The regulations contain detailed provisions for the use of coal ash as a structural fill and for other specified purposes.

In 1989, our State Legislature authorized the development of regulations for general permits for the beneficial use or processing of industrial waste other than coal ash. The draft final regulations include detailed provisions for a general permit system. A general permit is a permit that applies on a state-wide or regional basis to a particular category of industrial waste that is beneficially used or processed. Once a general permit has been issued, it is applicable to other persons or municipalities using the same waste for the same purpose. Persons using the waste specified in the general permit for the use specified in the general permit are only required to file a registration with DER or to file a request for a determination of applicability. As a result, the general permit process should be more efficient and less time consuming than case-by-case beneficial use approval or case-by-case individual permits. The general permit system should also encourage the reuse or recycling of much industrial waste across the State.

We are also aware of the importance of preventing the generation of waste before it comes into existence. The draft final regulations require each generator of more than one metric ton of industrial waste per month to develop a source reduction strategy. In addition to basic information, the strategy must identify how much waste a generator will reduce, and must identify the means and timetable that will be used within the next five years to achieve that goal. No particular percentage of waste reduction or "maximum feasible reduction" type of requirement is included, because waste reduction is intensely site specific and because DER lacks the personnel to ensure compliance with such requirements. If the generator is not willing or able to show any reduction at all, the strategy must include a description of the options that were looked at and the reasons they were rejected.

In general, the source reduction strategy will be submitted to DER by a particular facility operator as part of an application to dispose of or process waste at the facility. An important way of enforcing this requirement is to prevent a generator from being able to dispose of its waste at a facility unless the source reduction strategy is part of the application. This represents a departure from the requirement we have seen in many State pollution prevention laws that the strategy be separately reviewed, but we believe it is likely to be more effective.

#### ADDITIONAL ISSUES

DER's responses to the first comment period on the regulations resolved most of the issues that were raised. Two significant questions have emerged in the second comment period, and these are likely to be part of the national debate.

*Definition of waste and related terms*—The waste definitions proposed in the first round of rulemaking were based to a large extent on the RCRA definitions developed by EPA. These definitions were criticized as difficult to understand and use. As a result, we developed simpler and more straightforward definitions.

We concluded that the best way to define waste is to tie the definition to the process or manner in which it is generated. As a result, a waste is defined as including any by-product; any spent material; any material including co-products and products, that is abandoned or disposed of; and contaminated soil, water and residue.

Our draft final regulations exclude materials immediately recycled or reused on-site by the generator on the theory that the recycling or reuse of such materials on-site presents a very small risk to human health or the environment. In addition, products are not regulated as waste unless they are abandoned or disposed.

Finally, a co-product that is sold for use in lieu of a manufactured product or used by the manufacturer in lieu of a product is not included as waste. A co-product is any material generated by a manufacturing or production process of a composition, character, quality and utility that is consistently equivalent to, or exceeds that of an intentionally manufactured product, so long as use of the material presents no greater environmental or public health threat than an intentionally manufactured or produced product. A person producing, selling, or using a material as a co-product has the burden of proving that the material is actually a co-product. In these respects, the Pennsylvania definition of waste is simpler than the Federal definition.

We have received comments that these definitions cover materials that should not be regulated at all, such as industrial scrap and steel slag, because these waste materials are said to pose minimal risks. While we are still preparing our response to such comments, it is worth observing that the waste definition issue for industrial waste is different than it is for hazardous waste because of the great variation in risk posed by industrial waste.

*Groundwater protection*—We originally proposed regulations that would have required the abatement of groundwater degradation if it reached the level of groundwater pollution, which was informally understood to be equivalent to maximum contaminant levels (MCLs) or drinking water standards under the Federal Safe Drinking Water Act. (Unlike some other States, Pennsylvania has no statewide numerical groundwater quality criteria.) It appeared that a double-liner system or a single-liner system would allow little or no groundwater contamination if the technology were properly implemented. In our air and water pollution control programs, discharge limits are set based on the capability of the technology. In this case, it appeared that the use of MCLs as a limit provided a much higher level of potential groundwater contamination than the technology would actually produce.

The regulations were therefore amended. For new monofills, the mandatory abatement trigger level is a level set in the permit based on groundwater modeling, which may not exceed the drinking water standards. For new facilities that are not monofills, the mandatory abatement trigger level is background. Background was chosen because of the variety of contaminants being disposed of at a commercial facility, because of the difficulty of linking individual waste stream approvals to groundwater contamination modeling, and because of the capability of the single-liner and double-liner technologies that are required by these regulations. For existing facilities, the drinking water standards are used as the mandatory abatement trigger level, partly to preserve current limits for those facilities, and partly to avoid the complicated problems of retrofitting this groundwater contamination modeling scheme onto an existing facility.

The groundwater issue is a complicated one. But the amount of time that we have spent on this issue, and the various ways in which it affects the regulations, makes us think that it is a central question in the design of an industrial waste management program. Once the minimum level of groundwater protection is decided, a great many other issues can be resolved more or less automatically.

#### CONCLUSION

We have heard over and over that very little is known about industrial waste. While it may be that there is relatively little information collected at the national level, State agencies like DER have learned a great deal about industrial waste over the years. We know that much of this waste presents significant environmental and human health problems, and we know that the size of this waste stream dwarfs municipal and hazardous waste combined.

That most of this expertise is at the State level is important for several reasons. First, it suggests that the legislation should include ways of strengthening State agency capacity to regulate industrial waste. This is particularly important because we expect that the States will continue to do the bulk of the work on industrial waste after RCRA reauthorization. Second, it suggests that the legislation should set out general rules or performance standards concerning industrial waste, and give the States flexibility on the specific technical and regulatory choices that are made in implementing them. More generally, the volume of these wastes suggests that a national industrial waste program ought to be phased in over a period of at least five to ten years.

Thank you for the opportunity to present our views. I will be glad to answer any questions you have.

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#### STATEMENT OF CHEMICAL MANUFACTURERS ASSOCIATION

The Chemical Manufacturers Association (CMA) appreciates the opportunity to submit written testimony on S. 976, "The Resource Conservation and Recovery Act Amendments of 1991." CMA is a nonprofit trade association whose member companies represent more than 90 percent of the productive capacity for basic industrial chemicals in the United States. Consequent to their production of these chemicals, CMA member companies generate and manage hazardous and non-hazardous waste in both wastewater and non-wastewater forms. These wastes are regulated under the Resource Conservation and Recovery Act as well as other Federal and State environmental statutes. In addition to the generation of solid and hazardous waste,

CMA member companies reuse many different secondary materials in their manufacturing processes and transport their wastes or secondary materials across State lines to appropriate facilities.

The three issues of concern in this testimony, namely, management of non-hazardous waste, reuse of secondary materials, and interstate waste transportation, give Congress opportunities to improve public health and environmental protections, to conserve natural resources, and to elevate everyone's understanding of their role in responsibly managing their solid wastes.

*CMA Supports a Federal Framework for Managing Nonhazardous Waste That Builds on State Programs*

CMA supports strengthening this nation's non-hazardous waste management program. Therefore we support provisions in S. 976 that establish a Federal framework that strengthens, but does not supplant, State programs. EPA should establish Federal guidelines for State regulations that are cost effective, protective of human health and the environment, and consider the practicable capability of the regulated community. States must be full partners in program development and retain their historical lead role in implementation and enforcement.

*S. 976 Will Unnecessarily Encumber Environmentally Responsible Recycling of Secondary Materials*

We believe that S. 976's proposal to regulate all hazardous secondary materials as hazardous waste is misdirected. EPA already has enough authority to regulate hazardous secondary materials. Successful secondary material reuse depends on the cost and how easily a material can be reused in the production process to make other goods. If secondary material reuse is encumbered by regulation that imposes administrative burdens and delays, the program will fail. Secondary material reuse should be promoted as a preferred alternative to disposal, as long as it is done in a manner that protects human health and the environment.

CMA supports Congress encouraging environmentally sound reuse of secondary materials. As written, however, S. 976 does not encourage secondary material reuse. Rather, it only addresses one aspect of the issue, namely: how we can ensure that secondary materials are reused in a manner that protects human health and the environment. Unfortunately, S. 976 does that by extending the hazardous waste management scheme in only somewhat reduced form to secondary material. That kind of burden will discourage secondary material reuse.

In addition, Congress does not need to require EPA to set standards for products derived from non-hazardous waste. EPA already has sufficient authority to regulate toxic constituents in products.

*Waste Generators Will Unfairly Bear the Burden of a State's Unwillingness to Secure Adequate Disposal Capacity*

The freedom to move waste across State lines is essential to ensure that waste is managed in the most environmentally protective manner. The committee must view the problem of interstate waste transportation restrictions from the perspective of how this nation can have the necessary capacity and flexibility to properly manage all of its wastes. Such restrictions would cause major disruptions in interstate commerce with no guarantee that the waste will have an acceptable destination. Sanction schemes such as differential fees will not encourage States to site industrial waste facilities, either. The fees will simply be borne by the waste generator while the State that has chosen not to site facilities escapes such sanctions.

While the country must have the necessary capacity and flexibility to properly manage all of its wastes, Congress should not create a need for each State to have redundant facilities for specialized wastes. Each State does not need a facility to treat and dispose of each hazardous and non-hazardous industrial waste stream that is generated in that State. Restrictions on interstate waste transport could lead to wasteful redundancy of facilities that disregards the economic benefits derived from economies of scale.

Restrictions on the interstate movement of industrial waste would also discourage companies from internally managing their waste. Many companies transport a significant amount of their industrial waste to facilities in other States which they own or operate. Restrictions on the interstate movement of waste would also have a negative impact on recycling. The economic survival of recycling depends on assuring access to a wide market of appropriate wastes.



## I. INTRODUCTION

S. 976 is a comprehensive waste management proposal that addresses four major issues of concern to this industry. These issues are the toxics use and source reduction program in Title II, and the non-hazardous waste management program, reuse of secondary materials, and restrictions on interstate waste, addressed in Title IV. CMA has previously submitted testimony on the toxics use and source reduction provisions of the bill. See Written Testimony of the Chemical Manufacturers Association On The Toxics Use and Source Reduction Provisions, July 24, 1991. In it we support pollution prevention but criticize the bill's emphasis on mandatory toxics use and source reduction, which is unrelated to risk considerations or environmental release. Accordingly, we oppose the toxics use and source reduction provisions in Title II of S. 976. We will not dwell on our reasons here except to say that if enacted as written, the toxics use and source reduction provisions of S. 976 would retard the progress being made toward reducing releases of toxic chemicals to the environment, unnecessarily alter the composition and manufacturing processes for hundreds of thousands of products, adversely affect product and production innovation and quality, have a profound adverse impact on the Nation's economy, and threaten the nation's ability to compete—all without necessarily reducing environmental risks.

This testimony will also not focus on hazardous waste issues, except as they relate to the specific provisions in the bill, and to urge the committee to not rely upon the hazardous waste program as a model when addressing the non-hazardous waste program and the reuse of secondary materials. RCRA's hazardous waste program is an administratively burdensome program that costs U.S. industry \$11 billion a year but only regulates four percent of the industrial waste generated in the country! The stringent technical and administratively burdensome requirements are not appropriate for non-hazardous waste and discourage reuse of secondary materials. The nation can not afford that regulatory regime for managing the large volume of non-hazardous waste and secondary material reuse needs to be encouraged.

Our silence on the problems with the hazardous waste program should not be interpreted as satisfaction with the hazardous waste management program. The hazardous waste program still has many flaws because EPA implements the hazardous waste program by requiring the same strict technological controls for all hazardous wastes, without regard to cost or their relative risk to human health and the environment. The hazardous waste program also requires an expensive, and unworkable corrective action program that EPA estimates will cost more than \$60 billion. However, the bill does not generally address hazardous waste issues, and we won't either. We are happy to talk to the committee about our views on the many remaining hazardous waste issues, if they desire.

## II. COMMENTS ON NON-HAZARDOUS WASTE MANAGEMENT PROGRAM

*The Chemical Industry Supports Improved Nonhazardous Waste Management*

The chemical industry supports strengthening the national framework for, and improving, non-hazardous waste management. A better non-hazardous waste management program will improve human health and environmental protection. It will also provide more protective waste management options and decrease inappropriate solutions, which stem from the "all or nothing" (if not Subtitle C, then not regulated) perception.

The non-hazardous waste management program suffers from neglect at the Federal level. For the past 15 years, Congress has led the Nation on a campaign to control hazardous wastes. Despite that Federal focus, many States have developed good and increasingly active programs for regulating non-hazardous waste. Presently all States have established regulations for industrial, non-hazardous solid waste. Recently, CMA and API jointly hired an independent contractor to review State industrial non-hazardous waste programs. We discovered that State non-hazardous waste programs impose substantive regulatory requirements that States are actively implementing and enforcing (See Attachment 1). Highly industrialized States generally have more active and extensive industrial non-hazardous waste programs. Federal efforts on Subtitle D should build on these existing State programs.

## A. BACKGROUND

*The Nonhazardous Waste Universe is Large and Diverse*

The universe of non-hazardous wastes is large. Every industry in the Nation contributes to the more than 7.6 billion tons of industrial non-hazardous wastes generated in 1985 (U.S. EPA, 1988). EPA estimates that there are over than 230,000 non-

hazardous waste units at more than 130,000 industrial facilities. (U.S. EPA, "Report to Congress: Solid Waste Disposal in the U.S.," October 1988). In contrast, EPA estimates that 240 million tons of hazardous waste were generated—more than 30 times less. (Reilly testimony, 9/17/91). EPA also regulates 4,700 hazardous waste treatment, storage, and disposal facilities—more than 27 times fewer facilities (U.S. EPA, "RCRA Implementation Study," July 1990).

There is great diversity in the composition of industrial wastes, and in the capabilities of its generators, also. Non-hazardous waste forms include solids, semi-solids, liquids and contained gases. Industrial non-hazardous waste covers dissimilar substances such as organic wastes, metal-bearing wastes, inorganic solids, and aqueous wastes. These wastes include sludges from waste treatment operations, as well as wastewaters. Many non-hazardous wastes are relatively benign or even inert. Though some industrial process waste may contain hazardous constituents, these constituents are present at various levels which generally do not require the same stringent controls as hazardous wastes in order to protect human health and the environment. Because of this diversity and the large volumes of non-hazardous wastes, Federal initiatives should be designed to develop a flexible regulatory system that establishes a broad continuum of control. A monolithic program, similar to Subtitle C, which assumes every waste poses the same risk, is inappropriate for non-hazardous wastes. What is needed are tailored standards that protect human health and the environment in a cost-effective manner.

#### B. CMA'S RECOMMENDATIONS

The management of most industrial non-hazardous waste is regulated. The more highly industrialized States, in particular, have developed good regulatory programs for non-hazardous waste that they are continually improving. Congressional action should build upon these efforts and not impede them. States must be made full partners in program development, and retain their historical lead role in implementation and enforcement.

Congress should enact a Federal framework that strengthens States' non-hazardous waste management programs. EPA should develop waste categories, establish performance-based criteria for waste management facilities, provide technical assistance to States, and ensure that State programs are adequately enforced.

#### *States Should be the Primary Implementors of the Nonhazardous Waste Management Program*

This national framework should vest primary responsibility for implementing and enforcing the non-hazardous waste management program with the States. The volume of non-hazardous waste is too large, its diversity too great, the facilities too numerous, and the Federal resources to manage these wastes are too limited to rely upon a federally dictated regulatory scheme similar to the hazardous waste program. A program in which States assume the lead role for program development, promulgation of technical standards, implementation, and enforcement is the only program that will work. The States should tailor their regulations to reflect the risk posed by the wastes and the types of waste management units.

#### *EPA Should Develop Performance Criteria—States Should Develop Implement, and Enforce Regulations*

To assure the adequacy of State regulations, EPA should develop acceptable facility design standards that are performance based. States could promulgate EPA's designs as their standards, or develop other equivalent regulatory standards, as long as they met the level of performance upon which the standard was based. Cost should be considered in developing both the Federal performance-based criteria and the State regulations. The test for regulatory adequacy should be judged by the level of performance achieved by the States standards. The Federal framework must also allow States to avoid the massive amount of paperwork that arises from a centralized program, such as the hazardous waste program.

#### 1. WASTE CATEGORIES

#### *Congress Should Provide for the Classification of Wastes by Type and Degree of Hazard*

Subtitle D should be broad and include all solid wastes not addressed by Subtitle C or other laws and regulations. However, the size, complexity, and range of risks posed by non-hazardous waste requires a carefully designed waste classification scheme. The purpose of the waste classes are to facilitate development of tailored criteria and regulations that focus on the particular concerns posed by the waste and the practicable capabilities of the generators in each class. Such targeting is

critical to creating workable regulations. The waste classification scheme must also accommodate various schemes that are already in place. Such flexibility is necessary if Congress wants to avoid disrupting existing State programs.

The universe of Subtitle D wastes includes many types, generated from a wide variety of sources including households, small businesses, commercial establishments, municipal waste facilities, and industrial manufacturing sites. By addressing the source of the waste, the classification system for Subtitle D would simplify the identification of the "regulated community" for each category. Major waste categories in Subtitle D should, for example, include municipal solid waste, industrial non-hazardous waste, and municipal incinerator ash.

Moreover, it is essential that the waste classification system for non-hazardous wastes create subcategories that consider different degrees of risk. The highest risk industrial wastes are identified as hazardous wastes and are regulated under Subtitle C. Developing risk subcategories for non-hazardous wastes will provide a very important mechanism that will allow regulators to tailor Subtitle D rules to the very broad range of risks posed by non-hazardous wastes. For example, large volumes of very low risk inert wastes, such as non-contact cooling waters, or relatively benign wastes, such as stormwater runoff or construction debris, should be considered differently than more risky wastes.

Waste source categories and risk subcategories will facilitate an effective, workable Subtitle D system. Many States already use similar systems in regulating industrial non-hazardous wastes.

## 2. MANAGEMENT STANDARDS

In CMA's view, the heart of an effective Subtitle D program lies in developing and implementing tailored management standards. We believe that these standards should define a range of control that is commensurate with risk and considers practicable capabilities. These standards should be designed to address ways of managing waste subcategories in particular waste management units (such as industrial wastewaters in surface impoundments). Some States, such as Pennsylvania and Texas, have established industrial non-hazardous programs that use waste classes.

### *EPA Should Establish Performance-Based Criteria for Safe and Effective Waste Management*

Congress should require EPA to study the problems and technical characteristics of waste source categories and technologies and to develop criteria for safe and effective waste management. These criteria should be facility design standards that are performance based. Performance-based criteria define objectives and management criteria that are appropriate for a given category (or subcategory) of wastes. These criteria should reflect the potential risks posed by the waste in this category and the practicable capabilities of the regulated community managing this waste.

Federal criteria documents would outline the types of management methods appropriate for the handling and disposal of different wastes in different classes of facilities. Federal criteria should be relatively brief but can refer to more extensive design options or management guidelines. These Federal criteria should then be crafted in terms of performance standards so that various options for meeting the criteria are open to the States. The State regulators will therefore have the guidance and flexibility needed to tailor regulations to address actual waste characteristics, local geography, and particular State concerns.

### *States Should Ensure That Their Regulations are Adequate, In Light of the Federal Criteria*

States would ensure that their regulatory standards are based on the Federal performance-based design criteria. They can tailor regulations to their specific circumstances (e.g., climatological factors, such as rainfall, or geologic considerations, such as depth to groundwater). States could promulgate EPA's designs as their standards, or develop other equivalent regulatory standards, as long as they met the level of performance upon which the standard was based.

For most Subtitle D disposal units, Federal criteria would address the following program elements:

- Design/Performance Criteria
- Operating Criteria
- Location Criteria
- Closure/Post-Closure Care Criteria
- Groundwater Monitoring Criteria
- Remedial Response Criteria

Recommendations on several of these program elements follow.

### *a. Design/Performance Requirements*

Subtitle D technical standards should apply to new waste management units. Existing units would be required to demonstrate equivalent protectiveness or be upgraded over an adequate phase-in period. For industrial non-hazardous wastes, Federal performance-based criteria should be developed for land-based units including:

- Surface Impoundments
- Landfills
- Waste Piles
- Land Treatment

The technical information and criteria developed by EPA would serve as a primary source of information for the States. The States, however, would also have access to State-specific data, conditions, and priorities that they could consider in designing their specific regulatory requirements.

The following illustrates how regulations addressing groundwater monitoring might be developed: Congress could specify that EPA's Subtitle D criteria should minimize groundwater impairment caused by improper non-hazardous waste management. EPA's criteria would establish a performance-based objective. Guidance would discuss possible liners and groundwater monitoring, as appropriate, at land-based non-hazardous waste disposal units (i.e., surface impoundments, "waste piles, landfills, and land treatment). State regulations would establish the specific liner and groundwater monitoring requirements to address waste classes in particular unit types, considering location characteristics. State regulations could recognize equivalent alternatives. The attached example illustrates the types of State regulations that could be developed for waste subcategories (based on risk) that are managed in surface impoundments. See Attachment 2.

### *b. Groundwater Monitoring Criteria*

Subtitle D waste management standards should focus on groundwater considerations, not air emissions or surface water discharges since these are addressed by other regulations. For example, Subtitle D criteria would address ash pile storage or disposal at a non-hazardous waste incinerator, but would not address stack emissions because they are regulated by the Clean Air Act.

The criteria should allow State requirements for a groundwater monitoring program to decrease or become inapplicable with the decreasing potential risk (considering the wastes, unit design, and local geography). Federal criteria should also allow State groundwater monitoring requirements to monitor a groups of units, up to the facility boundary.

### *c. Remedial Response Criteria*

Subtitle D should focus on remediating groundwater impairment from operating Subtitle D land-based waste management units.

## 3. PERMITTING

### *Permitting Must be Simplified and Should Apply Only to Land Disposal Facilities*

Given the large universe of non-hazardous waste management facilities, CMA believes that a streamlined permit process is critical and the permit-issuing authority should be the State. Similar to Subtitle C permitting processes are extremely burdensome and are impractical for much of the Subtitle D universe. Permitting requirements should be focused on land-based disposal facilities. Furthermore, to the extent possible, EPA should allow for, and States should establish class permits and permits-by-rule for non-hazardous waste land disposal facilities.

A simplified and less resource intensive permit process administered by the States will encourage technological innovation. Moreover, having States as the focal point will lessen confusion and maximize resources, allowing permit writers to be those most familiar with applicable statutes, regulations, guidance, and site-specific conditions.

## 4. FEDERAL/STATE RELATIONSHIP; ENFORCEMENT

### *Congress Should Not Alter the Basic Federal/State Relationship for Nonhazardous Wastes*

When Congress enacted the Solid Waste Disposal Act of 1965, Federal technical assistance and financial incentives were intended to be motivating factors for States to develop solid waste management plans. Thus, the current statute encourages, but does not require, the development of State solid waste management plans. State and local governments have the primary role for implementing the Subtitle D program

through planning, regulations, and enforcement, and the Federal Government serves as "overseer."

Except for the first few years of the program, Congress did not appropriate the money for financial incentives and EPA did not offer technical assistance. Yet a different incentive took over. Public awareness and pressure has replaced financial and technical assistance as the incentives for States to implement non-hazardous solid waste management programs.

Thus, CMA believes that Congress should not alter these basic Federal/State functions, but rather strengthen the existing non-hazardous waste system by (1) mandating that EPA develop performance-based criteria and provide technical assistance, (2) requiring States to review, and revise as necessary, their regulations and certify in solid waste management plans that State programs are adequate, and (3) allowing States to maintain Subtitle D planning authority and access to Federal financial resources and technical assistance.

One of the objectives of State plans is to set forth priorities and schedules. Public participation is a key component. By requiring States to complete this evaluative process, respond to public concerns, and submit plans to EPA, Congress can establish the framework for ongoing Federal/State planning with requisite checks and balances. Emphasis would be placed on cooperative efforts to ensure the existence of key program elements and allow for innovative developments. State priorities thus will be viewed in appropriate contexts, both locally and nationally, with better planning occurring at all levels of government.

#### *EPA Should Develop Federal Performance-Based Criteria; States are Responsible for Having Adequate Regulations*

As discussed above, Congress should mandate that EPA develop Federal performance-based criteria for significant non-hazardous waste categories, and afford States the flexibility to demonstrate or develop tailored statutory and regulatory requirements which meet these performance objectives and protect human health and the environment. The minimum Federal criteria would achieve goals similar, in part, to the suggested guidelines of RCRA § 1008(a)(1) and (2) which provide technical and economic descriptions of performance levels (including methods and degrees of control) that can be attained by various solid waste management practices (including operating practices) which are protective of human health and the environment. EPA's role is important in gathering technical data, fostering information development, helping to train State technical and enforcement staff, and publishing resource documents to assist the States and improve performance. States, however, should have the primary authority to issue permits, to conduct inspections, and to lead enforcement efforts.

Inspections and enforcement also should be State-directed. Unlike Subtitle C, in which many Federal enforcement efforts are based on requirements for which a State is unauthorized, the Subtitle D program does not rely on Federal delegation of authority to the States, nor should it. Since Federal resources are limited, a higher Federal priority should be placed on hazardous waste issues. Amendments which provide additional Federal enforcement authority for the non-hazardous waste program are inappropriate.

### 5. NOTIFICATION

#### *CMA Supports Notification for Nonhazardous Waste Facilities*

CMA supports a notification requirement for all facilities that treat, store, and/or dispose of non-hazardous waste. The purpose of the notification would be to provide EPA and States more accurate information on the size and nature of the Subtitle D universe. With this information EPA could better design more detailed information collection efforts to support developing Federal criteria. EPA should also develop and maintain a national database on Subtitle D wastes and facilities. States could use the notification information to target implementation of their existing requirements, and the national database to better design and implement future requirements.

### 6. INTERIM MEASURES

#### *Any "Interim Measures" Should Foster Developing a Viable Program; They Should not Preempt Final Program Decisions or State Programs*

Some individuals have suggested that there is a need to legislate self-implementing regulatory requirements for industrial non-hazardous wastes—ostensibly to bridge the time between legislative passage and full program implementation (i.e., "interim measures"). CMA generally opposes regulating via statute. Congressional

efforts should focus on developing a framework for a final program and fostering Federal and State activities. Limited interim measures could be designed to facilitate EPA and State efforts to build a flexible, State-based final program, as described above. Since knowledge of the size and scope of the universe of industrial non-hazardous wastes is key to developing a viable program, CMA can support notification as an interim measure. CMA opposes, however, interim measures that preempt final program decisions and State programs. A workable regulatory program to address the large, diverse universe that we have described above requires a carefully crafted system that builds on State programs and fosters tailored decisions. These considerations are as important to an interim program as they are to a final program.

#### C. COMMENTS ON SPECIFIC PROVISIONS

##### 1. General

Although Title IV contains some provisions that could lead to an appropriate program, it is, in essence, an unworkable and centralized Federal program. The most important element missing from these provisions is an unambiguous declaration that regulatory standards will be written by the States, and that Federal performance-based criteria are to be used in developing these standards.

CMA generally supports the waste categories approach and the priorities implied in the schedule for implementation. In concept, we support the need for the management standards enumerated. We agree, for instance, that groundwater monitoring should be more extensively used at land disposal units. But, CMA strongly opposes 5.976's focus on Federal regulations that effectively preempt State flexibility in tailoring and implementing regulations. EPA, however, should maintain a role in determining the adequacy of State non-hazardous waste programs, while not mandating the details of State programs. A very important case in point is the liner requirements for industrial surface impoundments. See Section 401(a) amending 401(f). As stated previously non-hazardous wastes are diverse, and some of them are relatively benign. Yet this bill would require that all new impoundments install an extensive liner system installed in all new impoundments, regardless of the characteristics of the material in the impoundment. This will restrict the use of industrial surface impoundments, even if they are the best environmental alternative, (which they often are). More flexible provisions, such as alternative designs, separate requirements for existing facilities, and exceptions for noncontact cooling water are essential.

We also believe that the bill overemphasizes Federal permitting. Based on our experience, we believe that meaningful results can be achieved more effectively by devoting programmatic resources to communication, regulations, and enforcement rather than by permitting all Subtitle D facilities. The program should only require State permitting for Subtitle D land-based waste management units. Other units, including land-based units that only manage inert wastes, should not be required to have Subtitle D permits but still would be subject to the appropriate State Subtitle D management standards, notification, and reporting requirements. Incinerators, boilers, and furnaces managing Subtitle D wastes will be adequately permitted and regulated under Clean Air Act regulations.

##### *S. 976 So Severely Limits the Applicability of Permits-By-Rule, That There is Little Possibility of their Use*

In addition, by restricting permits-by-rule to situations where no single facility "is likely to" cause significant damage, and by imposing other restrictions, 5.976 so severely limits the applicability of permits-by-rule, that there is little practical possibility of their use.

#### 2. SECTION-BY-SECTION COMMENTS

A more detailed evaluation of Title IV's non-hazardous waste provisions follows:

##### a. Section 401

Section 401 rewrites the objective of the Subtitle dropping energy recovery as a resource conservation practice and promoting adoption of a waste management hierarchy by the States in their planning process. CMA opposes:

- dropping "energy recovery" as an objective, and
- altering the waste management hierarchy to put incineration on the same level as disposal.

CMA opposes the bill's changes to the waste management hierarchy. Energy recovery is a form of recycling that is more desirable than treatment or disposal. Energy recovery has a rightful place in the nation's environment as well as energy

policy. Nor should incineration be placed on the same level as disposal, rather than keeping it with other treatment practices. We support developing capacity for all types of management.

*b. Section 402*

Section 402 requires State and regional solid waste planning. CMA supports:

- the concept that this is supposed to be a Federal/State partnership;
- the requirement for State planning: States should have the lead and plan for what happens within their borders;
- categorizing wastes by type such as municipal wastes and industrial wastes; and
- requiring specificity in the capacity planning process. CMA is concerned about:
  - requiring States to use the hierarchy as modified by section 401;
  - requiring States to plan for and implement toxics use reduction schemes (See CMA testimony, July 24, 1991);
  - omitting any requirement for EPA to develop and maintain a national database on Subtitle D waste management such as data from State biennial Subtitle D waste reports;
  - the lack of sanctions for failure to do adequate capacity planning; and
  - the restrictions on interstate waste movement (see below).

*c. Section 403*

Section 403 establishes a permitting program for solid waste facilities. Within one year of enactment, every facility that stores, treats, or disposes poses of solid waste or recycles solid waste or secondary material must notify the State in which they are located. After this deadline, transportation to a non-notifying facility or treatment, storage or disposal of solid waste in a non-notifying facility is prohibited. Every facility that stores, treats, or disposes of solid waste must have a permit no later than 48 months after enactment. Transportation of waste to an undermined facility is prohibited after that date. Permits shall specify the type of waste to be handled, design criteria, monitoring requirements, financial assurance for closure and post-closure care, measures necessary to prevent unlawful disposal of hazardous waste, measures to control precipitation run-on and run-off, restrictions on receipt of liquids, and authority to require any necessary corrective action. Applicants for permits must pay an annual fee sufficient to cover all direct and indirect cost required to develop and administer the permit program. Fees must be at least \$2 per ton of regulated solid waste. The State is not required to include amounts over 50,000 tons per year. States may promulgate regulations to allow for permit-by-rule. Any facility included in such a rule would have to provide notice to the Administrator and the public, provide for monitoring, and provide for annual on-site inspections.

CMA supports:

- requiring facilities with units that treat, store, and/or dispose of Subtitle D waste to submit a simple notification to give the State a measure of the regulated community;
- the ability to have permits-by-rule; and
- the criterion for judging adequacy of State permitting is "adequacy", not "no less stringent."

CMA is concerned that:

- The proposed permitting program is too extensive for the size of this program. State permitting should be required only for Subtitle D land-based waste management units, except those that only manage inert Subtitle D wastes. Other units, such as tanks, should not be required to have Subtitle D permits but should be subject to the appropriate State Subtitle D management standards, notification, and reporting requirements. Incinerators, boilers, and furnaces managing Subtitle D wastes will be adequately permitted and regulated under Clean Air Act regulations.
- Subtitle D unit operators should be able to obtain permission to operate a unit under management standards that are equivalent in protectiveness to the standards in the State regulations.
- The permitting scheme for Subtitle D facilities fails to recognize the huge number of permits that will be required—probably more than 200,000. Permits-by-rule, or some other general permit system, should be the norm rather than the exception. Permits-by rule should not be restricted to situations in which EPA must prove the negative—"that no single facility or recycling unit has the potential for significant damage . . . and that the class will have minimal cumulative adverse effect." With this strict burden of proof, few permits-by-rule will be issued.
- Requiring EPA to issue all permits during first twelve months after enactment. This is an unreasonably short deadline for this large and diverse universe.

- The annual Subtitle D permit fee (§ 403(i)) should not be used to support "indirect" costs, but only those costs directly related to permitting, i.e., the costs of processing and reviewing permits and reviewing compliance data (such as monitoring). The permit fees should be capped at a reasonable level and should only be calculated on the dry weight of the waste instead of on the weight of dilute wastewater.

- The notification requirement does not exempt small quantity waste management facilities. d. Section 404

Section 404 establishes criteria for solid waste management. The Administrator must promulgate guidelines establishing minimum requirements for facilities that manage specified types of waste. In addition, the Administrator must publish a schedule for other categories within 12 months after enactment.

The guidelines must protect human health and the environment, taking into account volume, toxicity of waste, other particular circumstances and practicable capability. EPA's guidelines must address siting, construction quality assurance, licensing or training of installers and operators, design standards, monitoring, source separation requirements, corrective action requirements, closure and post-closure care, records maintenance, financial responsibility, and other relevant laws and regulations.

There are requirements for industrial surface impoundments; new surface impoundments, replacements of existing units, and lateral expansion of existing impoundments will require two or more liners with a leachate collection system between such liners and ground water monitoring. Other design or operating practices may be allowed if they are at least as effective in preventing migration into groundwater and surface water. The Administrator may establish similar requirements for existing impoundments. These provisions will not apply to noncontact, freshwater cooling water.

There are requirements for industrial landfills: Beginning 24 months after enactment, placement of bulk liquids and liquids in containers into any landfill that contains industrial waste is prohibited.

CMA supports:

- including all solid wastes not regulated by Subtitle C or other laws and regulations into Subtitle D;

- a waste classification approach that recognizes differing types and sources of wastes and the different inherent risks of each waste category;

- the Federal criteria and State regulatory standards for groundwater monitoring and remediation, location standards, closure/post-closure care, and financial assurance.

- EPA developing baseline Federal criteria for the management of Subtitle D wastes that is protective of human health and environment, is within the practicable capability of the regulated community, and provides State flexibility in implementation;

- the development of the criteria and standards that considers costs; and

- the availability of alternatively approved designs considering waste and location.

CMA is concerned about:

- The absence of an unambiguous declaration that regulatory standards will be written by the States, and that Federal performance-based criteria are to be used in developing these standards.

- Lack of clarity on whether the bill uses a Federal guideline or regulation approach. The operative language requires the Administrator to "promulgate guidelines establishing minimum requirements." The use of the word guidelines is unclear when used with "minimum requirements." Thus, this provision, may not allow the States to tailor the guidelines to their wastes or geographical situation. The bill should specify that EPA promulgate "guidelines using performance-based criteria." These should include quantifiable performance-based technical criteria.

- Congressionally mandated requirements that are inappropriate and restrict the States' ability to be flexible. There are a wide variety of wastes managed in Subtitle D facilities and States need flexibility to design appropriate requirements based on the wastes and other circumstances. As examples, these provisions would apparently require air and water monitoring at every site to identify any potential adverse health or environmental effects (an even more stringent requirement than for Subtitle C facilities), and could require corrective action without relationship to a particular unit or facility. See Section 404(a) adding §§ 4011(b)(4)(F) and (H). States need flexibility to design appropriate requirements based on the situations in their State. The Federal criteria for solid waste management under Section 404 should be flexible enough to allow States to adapt them to their local conditions and needs.



- The absence of a requirement to consider cost-effectiveness, in addition to the practicable capabilities of the regulated class, the guidelines should also consider cost-effectiveness of the recommended technology.

- The overly stringent double-liner and leachate collection system requirements for industrial surface impoundments, considering the non-hazardous nature of the wastes and the locations involved in industrial waste management. More flexible provisions, such as alternative designs, separate requirements for existing facilities and exceptions for noncontact cooling water should be encouraged. Exception for all noncontact cooling water are essential.

- Directing States to prohibit use of existing surface impoundments that do not meet the standards for new units. See Section 404 (a) amending § 4011(f)(2).

- Congress giving States the ability to add their own constituents of concern for judging surface impoundment variance requests under Federal law. See Section 404 (a) amending § 4011(f)(1)(C). There needs to be a list that industrial facilities can rely upon. If not, then Industrial facilities will never know what they need to demonstrate for the variances.

### III. COMMENTS ON THE RECYCLING PROVISIONS OF S. 976

With the passage of the Federal Pollution Prevention Act, the Nation is turning toward pollution prevention as the guiding principle of waste management. The pollution prevention hierarchy is similar to the waste management hierarchy contained in RCRA Section 1003(b) and promotes source reduction and recycling over treatment and disposal. Yet, to date, EPA has done little to encourage recycling, reclamation, or material reuse, in either the hazardous or non-hazardous waste programs. The existing hazardous waste management program actually discourages material reuse in favor of treatment and disposal by subjecting what are otherwise legitimate recycling activities to hazardous waste management requirements. If we are serious about waste minimization and conservation of resources, the ability to reuse secondary materials in the manufacturing process must be encouraged, rather than impeded through inappropriate regulation.

While S. 976 professes to encourage environmentally sound recycling, its impact will break that promise. The "encouragement" proposed by the bill is to sweep virtually all recycling activities into hazardous waste regulation, unless EPA promulgates other, equally protective regulations. For obvious reasons, the positive economic incentives for reusing secondary materials can be nullified if recycling is shackled with regulatory requirements which are cloned from the hazardous waste program, such as cumbersome permitting.

CMA believes that the underlying concepts of the recycling provisions of S. 976 need to be rethought. These provisions will not foster reuse of secondary materials. Instead, section 405's overly broad regulation will discourage existing efforts and future innovation. Therefore, the operating premise for S. 976 should be to remove regulatory constraints for recycling activities that are not required of manufacturing activities. The regulatory program should be targeted toward specific practices, such as speculative accumulation and placement on the land.

Existing RCRA authority is fully adequate to regulate such practices and to allow EPA to enforce against sham recycling operations. Congress can and should send an unmistakable message that reuse of secondary materials should be encouraged. Congress should direct EPA to make changes in its existing regulations necessary to unshackle certain remaining legitimate recycling operations from waste-like regulation, and continue to enforce regulations protecting human health and the environment.

#### A. GENERAL VIEWS

##### *Use of Secondary Materials in Legitimate Manufacturing Processes is not Sham Recycling*

Use of secondary material in legitimate manufacturing processes is widespread, but is not widely understood by parties outside of industry. Chemical plants contain numerous small and large recirculation or return loops from distillation units and other in-process activities that employ material recovery and reuse. Such operations are classic in-process manufacturing steps that are used in thousands of processes. This form of recycling should not be subject to RCRA regulations because they are not waste-handling operations. These practices are not sham recycling.

The debate over the definition of solid waste, and whether secondary materials should be regulated as waste, has been confusing and protracted. Over the past ten years, EPA has changed its definition of solid waste, and therefore, what is subject

to regulation. Applying the definition to individual facilities and processes is difficult.

As currently enacted, RCRA has two principle objectives relating to recycling: protecting human health and the environment and promoting conservation of materials and energy resources. The statute contains a Congressional finding that millions of tons of materials could be used that are needlessly buried each year. In addition, Congress finds that the recovery and conservation of such materials can reduce the nation's dependence on foreign resources and reduce the deficit in the balance of payments. See RCRA § 1002(c). S. 976 does not amend these two findings that are just as valid today as when originally enacted.

Putting the confusion aside, it should be no surprise that many well intentioned parties participating in the dialog over environmental regulation are struggling with these two competing aspects of RCRA. Recycling and waste disposal are not natural partners either in purpose or concept. If there is an equity principal to be developed through additional legislation, it should be between legitimate recycling activities and manufacturing and not between recycling and waste management.

#### B. A NEW REGULATORY PROGRAM FOR SECONDARY MATERIAL IS NOT JUSTIFIED

Certain proponents call for regulating virtually all hazardous secondary material recycling operations because there are many contaminated recycling sites, as illustrated by the CERCLA National Priorities List. Presence on the NPL does not justify RCRA waste regulation of the activity. All kinds of activities are represented on the NPL: illegal dump sites, lawfully closed non-hazardous surface impoundments, operating mining sites, legitimate and sham recycling operations, facilities that do not handle hazardous waste that had fires or accidental spills, and contamination at industrial sites from non-waste handling. Facilities contaminated by spills, as well as operating mine, for example, clearly should not be subject to the plethora of RCRA waste management regulations.

This justification erroneously suggests that the existence of sham operations or poor management resulting in releases warranting CERCLA justifies RCRA regulation. But, CERCLA response actions occur at fully protective RCRA facilities also. There always will be those who evade legal obligations under any legal structure.

This justification is also irrelevant because the recycling operation is rarely, if ever, the cause for the site being placed on the NPL. Instead, improper disposal, placement of materials on the land, and speculative accumulation are the reasons that EPA has to expend money from the Superfund. This justification is not at all relevant to the current regulatory framework.

Most of the NPL sites involve operations predating existing RCRA regulation (which prohibits sham recycling operations), and predate EPA's 1985 redefinition of solid waste which established additional requirements for recycling facilities. Thus, EPA's existing program, if adequately enforced, should protect the Superfund from unanticipated additional expenditures.

#### C. EPA HAS SUFFICIENT AUTHORITY TO REGULATE SECONDARY MATERIALS

RCRA is a waste management statute. It regulates "solid waste." Solid wastes are "discarded" materials. Since RCRA's inception, the delineation between when a material is "discarded" and subject to waste management regulations, and when a material is not discarded, has been the subject of heated debate, two completed rulemakings, three completed court cases and a proposed rulemaking. The debate, however, is almost over. The court has interpreted the definition of "solid waste" and largely upheld EPA's broad interpretation of authority over the management of secondary material. EPA is scheduled to issue an Advance Notice of Proposed Rulemaking later this year that will address the scope of the term "solid waste" and their jurisdiction over secondary materials.

RCRA is a very stringent statute. The issue for this Committee is whether it disagrees with EPA's and the Court's interpretations and whether additional Congressional action is needed. If EPA has RCRA jurisdiction over the material, then it has all of the regulatory authority it needs.

EPA's jurisdiction over recycling has been repeatedly challenged. The court has largely upheld EPA's jurisdiction over secondary materials. The court has reasoned that RCRA regulates "solid wastes"; "solid wastes" are "discarded materials"; and material is "discarded" if it is "disposed of" or "abandoned." Accordingly, the court decided that solid waste includes materials that are being disposed or abandoned, i.e., not being reused in a continuous process by the generating industry itself.

In contrast, materials that are recycled and reused in an ongoing manufacturing or industrial process are not solid wastes if they are destined for immediate reuse.

The court interpreted Congressional intent as saying that these materials are not part of the waste disposal problem. Rather they are destined for beneficial reuse or recycling in a continuous process by the generating industry itself. Other court decisions have clarified that if a material is discarded before it is reused, then EPA can regulate it. Thus, long term storage in a surface impoundment, for example, is regulated.

Based on these cases, and other EPA interpretations, EPA's ability to regulate secondary material reuse is fairly clear. EPA has already established regulations on concerning speculative accumulation; improper storage (especially in surface impoundments or other land-based units), and for products derived from secondary materials ("waste-derived products") that are applied to the land. See 40 C.F.R. § 261.6 (a)(1). EPA has not, however, extended its regulations over the recycling process itself.

If there has been a difficult dilemma for EPA, it has been how to strike an appropriate balance between regulating the adverse effects of mishandled secondary materials and encouraging their use. EPA has resolved this dilemma by saying that the primary objective of RCRA is protecting human health and the environment and that the need to encourage recycling gives way to this primary objective when these two objectives conflict.

EPA's general principle has been that they won't regulate recycling that is like ordinary production operations or ordinary usage of commercial products when recycling is not part of a distinct waste management operation. Thus, EPA has excluded from regulation materials used as effective substitutes for commercial products, or materials that are used either as ingredients in an industrial process to make a product or that are returned to the original process from which they are generated, if they do not need reclamation (i.e., processed to recover a useable product or regenerated so they can be reused). These materials are being used just like virgin material or a product that is not a waste. In addition, materials that are recycled via a "closed loop" are also not a waste even if they are reclaimed.

EPA regulates secondary materials when they are used in different ways, because they believe that these activities are more waste-like and should be regulated. These include materials that are used in a manner constituting disposal, burned for energy recovery, or speculatively accumulated. 40 C.F.R. § 261.2(c). Reusing material that first needs reclamation is not necessarily a waste but rather depends on whether the material is either "useable," or "spent" and must be regenerated to be reused. So, depending on the material, EPA has determined that certain reclamation activities should be acknowledged as true manufacturing and thus allowed without RCRA permitting.

CMA believes that EPA's guiding general principle is correct. This balance rings true to Congressional intent that RCRA regulates waste management and should not intrude into the manufacturing process. RCRA regulates waste but not materials that are substitutes for materials or products. We wonder why this Committee disagrees with this balance and wants EPA to regulate the use of secondary materials even when it is being used just like virgin material?

Instead of directing EPA to regulate more materials as hazardous waste, Congress should allow EPA to continue refining its regulatory structure for secondary materials. We believe that materials in a recycling process, regardless of whether they need reclamation are not wastes. Therefore, materials which are within or between manufacturing processes that need recovery for reuse are not wastes and should not be regulated as such, even though they are being reclaimed. In addition, EPA should remove certain impediments to the legitimate reuse of the material. These include making a clearer distinction between what is a waste or a material and defining what constitutes a "clean fuel" that can be burned for energy recovery. Thus, Congress should not be placing further restrictions on the reuse of secondary material. Instead, EPA should clearly state that certain practices are not waste-like and not subject to RCRA regulation.

#### D. EXAMPLES OF RECYCLING OPPORTUNITIES IMPEDED BY THE CURRENT REGULATORY PROGRAM

A few examples will help illustrate our position on how the hazardous waste regulations impede beneficial reuse of hazardous secondary materials.

- (1) *Accepting Spent Materials Needing Reclamation for Use Either as a Substitute for Raw Material Feedstock or as Ingredients in Industrial Processes is a Legitimate Recycling Activity Which Should be Conducted Without a RCRA Permit.*

Currently, 40 CFR § 261.2(e) states that materials that are recycled by being used or reused in an industrial process to make a product or are returned to the original

process from where they are generated, are not solid wastes and the activity does not require a RCRA permit. However, if such recycling requires reclamation, then the material is regulated as a waste. Manufacturers avoid many otherwise beneficial recycling activities because they do not want their manufacturing processes burdened by waste management regulation. One of the major impediments is the RCRA permitting process, which is arduous and glacially slow.

Since a new facility must have a final permit in hand before beginning construction, few facilities will undertake new recycling operations if they must wait years before actually constructing and operating the new facility. Even if the facility already had a RCRA permit, the permit modification process itself is slow. Companies can not hold up their production process waiting for a waste management permit. Few facilities determine the recycling benefits to outweigh the permitting costs.

For example, one CMA member company would like to reclaim a monomer from spent material. This waste stream is currently being incinerated even though it has a high content of recoverable residual monomer (80 percent). The waste stream is generated at production facilities throughout the U.S. and the world at a volume which makes reclamation economically feasible. The company desires to construct a facility to reclaim monomer from this waste stream. However, because this material would be hazardous due to the toxicity characteristic, the material must be managed as a hazardous waste. See 40 C.F.R. § 261.2 Table 1. The reclamation facility would be subject to RCRA permitting and the final permit must be issued before construction begins. Because of the inevitable permitting delay, the company is discouraged from constructing the facility in the U.S. In addition to the Federal permitting delays, some States have even more stringent hazardous waste siting and permitting requirements which further impede the construction of such a facility. Such a facility would benefit Company A and the environment by reclaiming several million pounds of valuable material which is now incinerated. However, the economic and environmental benefits do not outweigh the permitting costs. In this instance the RCRA permitting system effectively stops a valuable pollution prevention project.

The RCRA permitting process also discourages product stewardship programs. Customers often desire to return spent or out-dated product to the manufacturer. The manufacturer could reuse such material in the manufacturing process. However, classifying such material as a waste and triggering RCRA management requirements discourages such activities. For example,

A CMA member company produces heat transfer agents which customers may return to the manufacturer for reuse or reclamation. This is done to support both the customer and the environment by assuring that spent, unused, or outdated product is handled properly. This material would not be a solid waste when returned to the original manufacturer if it can be re-introduced into the manufacturing process without first being reclaimed. 40 C.F.R. § 261.2(e). However, if the material is not a discarded commercial chemical product and needs to be reclaimed, it becomes a solid waste; and if it meets the definition of a hazardous waste, it becomes subject to RCRA Subtitle C requirements, including generator requirements, manifesting and permitting. Some of these heat transfer agents will fail the new toxicity characteristic and become subject to RCRA Subtitle C. This company would like to have continued accepting these materials after promulgation of the new toxicity characteristic, but does not have a RCRA permit to allow it to store the TC hazardous product. Reuse of these materials, which could reduce both the demand for hazardous waste resources and raw materials if reintroduced into the manufacturing process, will have to be managed as hazardous wastes instead of being reclaimed. A further irony of this situation is that many of the customers who have been returning the product qualify for the small quantity generator exemption. Thus, rather than returning the spent or unused product for reclamation and reuse, they can send it to a municipal landfill or non-hazardous waste incinerator.

The recommended solution to both these situations is for EPA to allow recycling activities cited at 40 CFR 261.2(e) (i) and (iii) to include operations that reclaim materials before using them as ingredients or substitutes for raw materials. S. 976 will prevent EPA from allowing these beneficial reuses. Section 4011 amending RCRA § 3004, will only exempt the practices currently included in 40 C.F.R. § 216.2(e) and 40 C.F.R. § 261.4(a)(8) ("closed loop recycling"—see next example). See § 405(b) adding § 3004(y) (4). S. 976 requires that every other recycling activity must be covered by waste-like management regulations.

Under existing statutory authority, EPA can assure that such material is managed in a protective manner before and after being recycled or reclaimed and that any waste generated as a result of the recycling or reclamation activity is managed appropriately. For example: (1) any material shipped back to the manufacturer

should be labeled and placarded in accordance with DOT regulations; (2) material could be stored for less than a year in compliance with the tank design standards or other standards (i.e., land placement) the Agency deems necessary to protect human health and the environment; (3) waste generated as a result of the recycling activity must be characterized and managed according to the applicable waste management requirements. Facilities that originally generated the waste as well as those who produce a hazardous waste would be considered a RCRA generator and the Agency has access to the facility for routine inspection.

*(2) Reclaiming and Returning Secondary Materials to the Original Process is Also Legitimate Recycling Even Though the Recycling Does Not Involve a Closed Loop, and Should Not Require a RCRA Permit.*

EPA excludes from regulation secondary materials which are reclaimed and returned to the original process through pipes or other comparable means of conveyance (e.g., a "closed-loop" system). EPA determined that a facility's use of a closed-loop system demonstrated that the material was part of production. Yet many more secondary materials could be beneficially reused if the concept of "closed-loop" is expanded to allow reclaimed secondary material to be recirculated to units other than the "original process" even though it is not recirculated solely via a pipe or other comparable conveyance. An example will illustrate the point:

A manufacturer produces a by-product material that contains 10 percent of a hazardous constituent and 90 percent water. The secondary material comes from a "listed" source, i.e., it is a listed hazardous waste. The substance exhibits the hazardous characteristic of corrosivity, i.e., pH either less than 2.0 or greater than 12.5.

Presently, this by-product is treated and disposed of offsite as hazardous waste in accordance with RCRA regulations. However, the volume of the hazardous substance is sufficient to allow it to be employed as a feedstock in a different process. The separation of water from the mixture can be easily achieved in the manufacturing process, with the wastewater being sent to the plant's wastewater treatment unit, where it is treated and discharged under a Clean Water Act permit. Under the current regulations, this by-product would be exempt from RCRA regulation if it was only hazardous by reason of its corrosivity. See 40 CFR §61.2(c)(3), Table 1. However, since the by-product is from a listed source and needs reclamation to recover the hazardous constituent, it is not exempt. Thus, the manufacturer cannot recover and reuse the hazardous constituent, which makes the by-product valuable, unless the recovery operation, which is a part of the manufacturing process, receives a RCRA permit. Consequently, the manufacturer sends the material off-site for disposal. This wasteful result is true even though the manufacturer already handles pure Substance x as a virgin raw material, and performs similar processes called for in the separation.

Many companies produce spent solvent waste streams containing hazardous constituents that makes the spent solvent a hazardous waste. The material is regulated as a hazardous waste unless it is recycled and reclaimed in a closed-loop. The usual practice at these facilities is to dispose of the material that becomes a hazardous waste instead of reclaiming and reusing it.

If the facility runs "batch operations" (makes different products in batches, instead of a single product in the same unit all of the time) for example, it may not be able to return the solvent to the "original" process. Other considerations, such as space constraints, and the need to get a RCRA permit if the spent solvent needs to be stored for greater than 90 days, may deter installation of a closed-loop system. Without a closed-loop system, the material can be accumulated for only 90 days before a RCRA storage permit is required for the facility. EPA regulates the less than 90-day accumulation practices.

Other factors will also effect a company's decision to reuse a hazardous waste. There is a strong stigma when a hazardous waste is stored in a hazardous waste storage area and then reused on site. There is also the management fear that if it is scheduled for recycling and that recycling operation gets postponed, the waste will not be sent to a TSD within the 90-days, thus causing a violation.

Instead of permitting requirements that would deter such recycling, appropriate regulations for stored material can be included in the regulations. These regulations would safeguard against speculative accumulation, improper land disposal (including short-term placement on the land) in either the storage or the recycling/reclamation activity.

Consequently, EPA could amend 40 CFR § 261.4(a)(8)(i) to establish the necessary safeguards, including requirements that: (1) reclamation must be conducted by the owner of the secondary material; (2) reclamation must not involve open flame combustion; (3) the activity must be completed within 12 months to avoid the potential

for speculative accumulation; and (4) appropriate regulations to ensure that short term storage is protective of human health and the environment, including standards regulating placement on the land. Such changes would allow manufacturers to centralize recovery or reclamation activities where individual "closed-loop" operation are impractical because of volume or space. S. 976 will prevent EPA from allowing these beneficial reuses. Section 4011 amending RCRA § 3004, will only exempt the practices currently included in 40 C.F.R. § 261.4(a)(8) and 40 C.F.R. § 216.2(e). (See previous example). See § 405(b) adding § 3004(y)(4). By codifying these exclusions, S. 976 will remove EPA's flexibility to improve, and fine-tune the recycling program.

*(3) EPA Should Eliminate Restrictions on the Use of Materials Produced from Wastes When Those Materials Meet a Defined Standard (Such as a Characteristic or De Minimis Level) or are Essentially Equivalent to Products Manufactured From Virgin Materials.*

EPA's "derived-from" rule means that any waste, material, or product that is made from a hazardous waste is also considered a hazardous waste. EPA has applied this rule with full force to products that are made from secondary materials and applied to the land. Thus, products that are made from hazardous secondary material that are applied to the land cannot be placed on the land unless they meet the full requirements of subtitle C, i.e., placement in a permitted unit. This rule discourages the recovery or reuse of materials that could be applied to the land, even if such materials are essentially equivalent to products made from virgin materials. In many cases the reclamation or recycling activity removes the hazardous constituent, thereby rendering a product analytically indistinguishable from similar products made by other means.

The recommended solution for this problem is for EPA to break the "derived-from" rule for products applied to the land, and analyze the waste derived product on its own merits. If it does not exhibit a hazardous characteristic or exceed a de minimis hazardous constituent concentration, it may be used like any similar product manufactured from virgin materials. Until de minimis levels are established, however, such materials could be required to meet the land disposal treatment standards and not exhibit any hazardous characteristic. The "derived-from" rule is a creature of regulations, not the statute. As such, the Agency can modify the existing regulations to allow this beneficial reuse activity.

*(4) EPA Should Establish a Clean Fuel Standard for the Burning of Waste for Energy Recovery.*

Many secondary and spent materials and by-products can be used as clean-burning, high BTU fuel substitutes. However, these materials, if determined to be hazardous must be managed as hazardous waste, and the unit must be permitted. As a result of the permitting and permit modification difficulties discussed above, many generators forgo burning such materials for energy recovery or are forced to use a virgin fuel energy source. This is neither good environmental nor good energy policy.

If these materials are not burned for energy recovery, they will be sent offsite for treatment—inevitably incineration. Such activity requires unnecessary transportation of hazardous waste and uses valuable treatment capacity that otherwise would be available for waste that are not appropriate for energy recovery because of low BTU value. The irony of the situation is that the material will be burned regardless. The only question is whether the activity will recover energy, reduce fossil fuel demand, and efficiently allocate waste transport, treatment, and disposal resources.

EPA should promulgate "clean fuel" standards similar to those promulgated for used oil burned for energy recovery (40 C.F.R. § 266.40). Any unit burning a waste stream meeting the regulatory specifications would not require a RCRA permit, but would be regulated under the Clean Air Act.

**F. CONGRESS SHOULD ENCOURAGE EPA TO ELIMINATE BARRIERS TO RECYCLING**

These examples demonstrate that EPA could do more to encourage the reuse of hazardous secondary materials, and still protect the environment. In fact, the issue has never been whether EPA has enough regulatory authority to protect human health and the environment; it has been whether EPA felt directed actually to encourage recycling.

There is a legislative opportunity here for Congress to send an unmistakable pro-recycling message to EPA and the industrial community that complements the pollution prevention planning requirements of the Federal Pollution Prevention Act. EPA should rewrite its regulations to encourage additional reclamation activities.

Companies could then reexamine their processes for these newly created recycling opportunities when they consider their pollution prevention planning.

Congress should send a clear signal to EPA that they should do more to encourage this beneficial activity and refrain from enacting more regulatory authority that will discourage recycling.

#### G. COMMENTS ON SPECIFIC PROVISIONS OF S. 976.

The recycling provisions of S. 976 are inconsistent in several irreconcilable respects. First, the bill seeks to encourage environmentally sound recycling operations, but the effect of its regulatory provisions and restrictions is to invite abandonment of legitimate secondary material reuse and recovery activities in favor of increased waste disposal. Second, the bill codifies and requires EPA to adhere to existing regulatory standards designed to distinguish between "sham" and "legitimate" recycling, but simultaneously jeopardizes or repeals most of EPA's recognized legitimate manufacturing recycling categories by its definition of "secondary materials." Codification of existing rules is unnecessary and restricts EPA's ability to improve the program. Regulating legitimate recycling as a waste is counterproductive.

##### *(1) The Recycling Provisions of S.976 Unnecessarily Sweep Manufacturing Units Into Hazardous Waste Regulation.*

Section 405(a) of S. 976 proposes to amend RCRA by expanding EPA's RCRA regulatory authority to hazardous "secondary material." Section 104(45) defines "secondary materials" as "including any byproduct or process residue that . . . is recycled . . ." This definition could be interpreted in a way that sweeps residues and by-products of each stage of a typical multi-stage chemical process, into RCRA jurisdiction. Chemical plants contain numerous small and large recirculation or return loops from distillation units and other in-process activities that employ material recovery and reuse. Such operations are classic in-process manufacturing steps that are exempt from RCRA regulations because they are not waste-handling operations. This is a broad and unwarranted expansion of RCRA jurisdiction.

In case the intent of this bewildering expansion of RCRA jurisdiction is not clear, section 405(b) includes a "hammer" provision. Within two years after enactment, all secondary materials are to be regulated as hazardous waste unless EPA promulgates requirements for the recycling, recovery, and reuse of hazardous waste and hazardous secondary material. These provisions wipe out the delineations between what is a solid waste subject to waste management regulations and what is a secondary material not subject to such regulations and announces Congressional intent to regulate all secondary materials as wastes.

This is an unnecessary erasure of a great deal of careful regulatory development upon which industry has relied upon for facility planning and construction during the past eleven years. The bill represents a step backward by repealing existing determinations for well recognized and accepted uses of secondary materials. For instance, EPA has determined that the reclamation and reuse of pulping liquors in the pulping process is a manufacturing step and these secondary materials should not be regulated as a solid waste. See 40 CFR § 261.4(a)(6). Similarly, EPA has agreed that the manufacture or regeneration of virgin sulfuric acid by using spent sulfuric acid as a feedstock is not waste handling, but is true re-manufacturing of the sulfuric acid molecule. See 40 CFR § 261.4(a)(7). S. 976 removes these determinations and makes EPA repropose and repromulgate them.

S. 976 also fails to adopt other generally recognized recycling exemptions. For example, if a manufacturer produces a by-product or sludge which otherwise would be a "characteristic" hazardous waste, the manufacturer may reclaim useable material values through a reclamation process, and employ that usable material as an ingredient in manufacturing, without subjecting the process to RCRA regulation. See 40 CFR § 261.2(c)(3) and Table 1. This approach is sensible because it recognizes that the raw material being reclaimed most likely poses few if any additional hazardous than the virgin raw material. This rule also encourages searching for economic reclamation prospects by not encumbering the process with regulation which is not warranted.

If these "characteristic" by-product reclamation processes are subjected to regulation, the regulatory burden of obtaining a full Part B permit (or its recycling equivalent) may be great enough to force many to terminate beneficial recycling. Worse yet, new recycling opportunities will have to await permitting prior to commencement or modification of their facilities. This does not make sense. Manufacturing facilities are constantly making facility and process changes to enhance product quality, implement pollution prevention, or achieve competitive advantage. They should not be hampered from making changes solely because they are associated

with a secondary material. These, and other, well-founded delineations would be obliterated from S. 976. Instead, they should be expressly preserved.

The logic is inescapable that if the committee endorses the statute's and EPA's existing principles for distinguishing between waste-like activities and true manufacturing activities, that Section 405 should be deleted.

*(2) Adopting the "Derived-from" Rule Aggravates a Severe Impediment to Recycling.*

The so-called "derived-from" rule is an existing EPA regulation that provides that residues from treatment of a listed hazardous waste is itself the listed hazardous waste, regardless of the chemical constituents of the treatment residue. Thus, all materials downstream of such treatment are branded with the hazardous waste coding regardless of their content or physical properties. The only regulatory solution offered the tens of thousands of plant operations producing sometimes treatment residues or by-products, is to individually petition EPA for "delisting." This is a cumbersome and expensive process, with uncertain outcome, and has led many members of industry to simply send processable materials to waste treatment and disposal sites. It's just not worth the time, effort, and cost to de-list.

As drafted, S. 976 codifies the "derived-from" rule thereby fulfilling waste disposal contractors' highest hopes for ever increasing material to manage. To the extent that S. 976 proposes to subject presently exempt recycled materials to waste regulation, this provision would also require that the recycling by-products are regulated, without any affirmative demonstration of relative hazardousness.

The bill does not require a re-examination of the heavy-handed and hazard insensitive derived-from rule and, in fact, would a future EPA re-examination unlawful by elevating the derived-from rule from a regulation to a statutory provision. This is an opportunity for Congress to mandate that EPA replace the derived-from rule (and its close relative, the "mixture rule") with affirmative scientifically based standards or de minimis levels, so that treatment residues (or any materials) which meet those criteria are no longer unnecessarily regulated.

*(3) Certifications By Closed-Loop and "Direct" Reuse Recyclers is Unnecessary and Will Result Certifications From Tens of Thousands In-Process Manufacturing Steps and is Incorrectly Drafted.*

Section 405 would require certifications from any facility which employs "closed loop" recycling or "direct" reuse of "hazardous secondary materials" to avoid waste regulation. (We note that the bill also refers to "hazardous materials" in this section, a term that is undefined in RCRA and inappropriate in context. We assume that this is a typographical error.) Most chemical manufacturing units contain numerous small and large recirculation or return loops for materials which undergo intermediate distillation, interim storage or separation, or other in-process activities to allow material reuse or recovery. Under this section, each of these loops would require description, quantification, and certification.

A medium-sized plant may have hundreds of such processes which would require identification and certification by the regulated community and review by the regulatory community for what environmental benefit. Such operations are classic in-process manufacturing steps. They are not covered by RCRA regulations because they are not waste-handling operations. EPA has full power under current law to inspect and enforce against the operations with the threat of potentially devastating daily penalties, if they violate this delineation.

CMA believes the certification provision should be stricken because it will generate enormous amounts of paperwork without any environmental benefit.

CMA also notes that the certification provision is inartfully drafted. While attempting to codify the exemptions at 40 C.F.R. § 261.2(e) and 261.4(a) (8), the drafters characterize the processes described in these regulations as either "closed-loop" for 40 C.F.R. § 261.4(a) (8) or "directly reusing" for 40 C.F.R. § 261.2(e). These colloquial characterizations are not technically correct. The provisions in 40 CFR § 261.2(e) does not require "direct reuse" by the facility either by immediately returning the secondary material or by requiring that it be returned to the process that originally generated it. Rather, 40 C.F.R. § 261.2(e) says that the material can reuse win certain ways, provided it does not need reclamation. Characterizing it as direct reuse is confusing and unnecessary. Instead the bill should merely refer to "reusing . . . in the manner described . . ."

Similarly, the words "closed-loop manufacturing process" is also unnecessary.



*(5) The 24 Month "Hammer" Provision is Based on a False Premise and is Overly Ambitious for Development of Competent Regulations Addressing the Full Range of Recycling Operations.*

The "hammer" provision in section 4011(b) is inappropriate and will have a devastating effect on legitimate recycling operations. If EPA were to fail to meet the 24 month deadline, the hammer provision would subject these operations to full RCRA regulation and indeed require their termination, unless interim status were available and the manufacturer chose to enter the RCRA system. This consequence is truly Draconian to legitimate recycling operations, and flies in the face of any expressed intent to encourage environmentally sound recycling. CMA believes the hammer provision should be eliminated.

When coupled with the 24 month regulation development period, the hammer provision will lead to poorly drafted regulations for a complicated activity that the committee wishes to encourage. Twenty four months is inadequate to develop standards which are to be tailored to the many different operating and process scenarios presented by recycling.

*(6) The "Permit by Rule" Provisions are Unclear and Will Be Useless to Recycling Operations.*

Section 405(c) directs EPA to establish permit-by-rule regulations for recycling operations. However, subsection (k)(4)(B) provides that EPA cannot issue a permit by rule for any "class of facilities or recycling units" If EPA determines that any single facility or recycling unit in the class "has the potential for significant damage to human health and the environment." These terms are so vague that one could contend that even a tank of the type ordinarily used in manufacturing could present such a "potential" if there were to be a catastrophic spill or leak. Even if the criterion were to be changed to "substantial risk under normal operations", it is possible that there will be one facility to preclude class regulation. CMA recommends that the class permit language be stricken in favor of granting EPA power to call for an individual permit if special risks are determined to be present for one or more categories of facilities.

The provisions for public notice and comment prior to construction and operation clearly places recycling activities on a time-line-disadvantage compared to other non-recycling process changes, such as of raw materials substitution, facility expansion, or process design change. It also could jeopardize competitive advantages associated with the recycling discovery as competitors can review the public record and participate in public hearings. Public notice should be required only where EPA determines that the proposed operation is materially different from those associated with use or manufacturing of virgin materials. Therefore, if the operation represents reclamation of a raw material, and the reclamation involves substances and exposure scenarios that are similar to those attending preparation and use of virgin raw material, no public notice and comment would be required.

The provision requiring a demonstration that the facility is in compliance with "all applicable legal requirements" could mean that a facility in litigation over an NPDES issue could not proceed with related or unrelated recycling operations. Again, there is no such requirement for other manufacturing operations, and there should be none here. It is lawful for the particular operation to start it should be able to; if it is unlawful, existing enforcement authorities are in place to issue citations and obtain injunctions, if necessary.

*(7) TSCA is Designed to Address Risks Associated with Toxic Substances in Commerce. No Amendment is needed to Subject Such Products to TSCA Authority.*

Section 4012(a) relating to recycling of non-hazardous secondary materials, requires EPA to develop standards for products produced from recycling operations. CMA does not suggest that review should not be made of any new chemical substances arising from recycling, but TSCA would already require the filing of a pre-manufacture notification, and extensive supporting information for any such new chemical substance. TSCA also grants EPA extensive authority to require special studies, restrict uses, or ban substances if risks warrant such action. TSCA is the proper and most competent program for this function. If the RCRA program were to establish more stringent standards for recycling products than for the virgin products with which they compete, S. 976 would create an overt discrimination against recycling, rather than attempting to "level the playing field."

#### IV. CONGRESS SHOULD NOT RESTRICT THE INTERSTATE MOVEMENT OF INDUSTRIAL WASTE

During chemical production, CMA member companies generate a variety of industrial wastes, both hazardous and non-hazardous. Many CMA member companies

transport wastes across State borders to assure that the waste is managed in the most environmentally protective manner. For these reasons, CMA members are vitally concerned about proposals at both the State and Federal levels to restrict interstate waste movement. CMA understands and appreciates the problems of those States that feel they are bearing a disproportionate burden for other States that have failed to site waste management facilities. However, the interstate movement of wastes will continue to be necessary to keep industrial facilities operating and to avoid negative environmental and economic impacts.

While CMA opposes restrictions to the interstate movement of wastes, we commend the committee for recognizing the important differences between municipal and industrial wastes. Consequently we applaud the committee's intent to limit any interstate waste transportation restrictions to municipal solid waste. Accordingly, in the first part of our comments on the interstate waste transportation restrictions, we offer a few corrections to fulfill that intent. In the second part of the testimony we explain how interstate transportation restrictions on industrial waste (hazardous or non-hazardous) are likely to interfere with the responsible management of such waste.

#### A. CLARIFICATIONS TO LIMIT TITLE IV TO MUNICIPAL SOLID WASTE

According to the sponsors' description of Section 407 of S. 976, it is intended to authorize States to impose restrictions on the import of municipal solid waste generated in another State. Accordingly, the term "municipal solid waste" is referenced in both Sections 4013(a) (1) and 4013(a) (2) regarding the authority to impose restrictions and fees on interstate wastes. But other terms in Section 407 may be interpreted to authorize restrictions on the import of all solid waste, including industrial solid waste. This confusion stems from several apparent drafting errors where the broader terms "solid waste" or "wastes" are used instead of "municipal solid waste". "Solid waste" and "wastes" can include both municipal non-hazardous wastes as well as industrial non-hazardous waste, and technically can include all hazardous wastes. See 42 U.S.C. § 6903(27). The specific terms that should be clarified are:

1. The title of the Section is "Interstate Transportation of Solid Waste."
2. Section 4013(a)(3)(A)-(B), refers generally to "out-of-state wastes, after setting out in 4013(a)(3) that States are authorized to impose and collect fees for out-of-state municipal solid waste."
3. Section 4013(b), "Authority to Impose Bans," provides "... a State is authorized to restrict or otherwise prohibit the transport of solid waste;" and
4. Sections 4013 (f) and (g) refer to "Solid waste generated" in the context of open dumps and disposal/incineration fees (emphasis added).

Section 407 should be revised to clarify these apparent drafting errors and to limit its application to municipal solid waste throughout. The following discussion emphasizes why Congress should avoid authorizing States to impose restrictions on the interstate movement of industrial wastes.

#### B. WHY THE INTERSTATE TRANSPORT OF INDUSTRIAL WASTE SHOULD NOT BE RESTRICTED

##### 1. It is Important to Distinguish Between Industrial Waste and Municipal Waste.

Although the public may not always perceive the differences, municipal solid waste and industrial waste have different characteristics and are managed differently. Municipal solid waste (MSW), such as that derived from households and commercial establishments, is a waste mixture composed primarily of paper, glass, yard wastes, plastics, and food wastes. Most MSW is disposed of in municipal non-hazardous waste landfills. Industrial solid wastes (ISW), on the other hand, are often high volume solids, sludges, and wastewaters. The waste characteristics vary by industry. Some wastes are relatively inert (such as non-contact cooling waters); others are residues that may pose more significant risks. These wastes are managed by a variety of recycling, treatment, and disposal practices, some of which are very specialized and costly.

##### 2. No State is Completely Self-sufficient in Waste Treatment and Disposal nor Should They Be.

Every State exports some waste. A State may be a net exporter of hazardous waste and a net importer of municipal waste. According to a December 31, 1990, study prepared for the National Solid Waste Management Association (NSWMA) all 50 States export some of the hazardous waste generated within their borders ("Interchange of Hazardous Waste Management Services Among States," National Solid Wastes Management Association, December 1990). The NSWMA report, which

was compiled using data from the 1987 Capacity Assurance Plans submitted to EPA by the individual States, concluded that:

"The average State exports hazardous waste to 19 other States for management services. Likewise, the average State receives wastes from 19 other States for management services."

The report further concludes that the average State uses 12 different types of treatment and disposal technologies. It may initially seem desirable to require every State to become totally self-sufficient. However, such an approach would be counter-productive, and result in less environmentally sound and protective treatment or disposal, and lead to the use of public and private resources in order to satisfy redundant and unnecessary requirements.

It is unreasonable to require every State to treat and/or dispose of each industrial waste stream that is generated in-state. Some types of industrial waste need very special treatment technologies which do not exist in every State. For example, the Toxic Substance Control Act (TSCA) requires polychlorinated biphenyls (PCBs) to be burned in an incinerator that can demonstrate a 99.9999 percent destruction removal efficiency (DRE). The incinerators are permitted under TSCA. Some are permitted to burn solids, and some only liquids. Not every State with PCB waste needs even one type of PCB incinerator. Similarly, it is not economically feasible or necessary to require each State to have every other specialized form of waste treatment. Restrictions on the movement of industrial waste would greatly increase the number of facilities which would have to be sited nationally. However, in contrast, it would be extremely difficult to convince the local population that permitting and siting of such facilities is necessary.

### *3. Responsible Treatment, and Disposal of Industrial Waste Depends on Free Movement Across State Lines.*

Different industrial wastes require different management techniques. The NSWMA survey also shows that the average State exports waste destined for 12 different kinds of treatment or disposal technologies. The closest facility that offers the most appropriate management option may be located in another State. This is especially likely for industrial facilities that are clustered near State borders or for very specialized treatment technology which may not be located in every State. In some cases, waste management techniques may be so specialized that the closest appropriate facility may be located in another region.

Some disposal techniques are best suited to, or limited to, areas with specific geologic or hydrogeologic characteristics. These characteristics may provide the safest disposal method but may not be found in every State. For example, areas sitting atop layers of impervious clay are ideal for siting landfills, while areas where the water table is at or near the surface may be inappropriate.

### *4. No Restrictions Should be Placed on the Interstate Movement of Materials Destined for Recycling, Reclamation, or Recovery.*

All materials destined for recycling, reclamation, or recovery should also continue to move freely in interstate commerce. These emerging technologies offer great promise for reducing the overall waste disposal problem in the United States but are dependent on market forces. Economies of scale are often vital to the success of such ventures. As an example, the growing effort by many companies to recycle plastics from the municipal waste stream could be severely impaired if access to post consumer plastics from a number of States is restricted. One CMA company is constructing a multi-plastic recycling facility in New Jersey that will draw its supply from a 250-to-500 mile radius. Access to waste sources in a large geographic area may be the key to the success of a technology that provides the greatest protection for public health and the environment as well as reducing the demand on municipal landfill capacity.

Another CMA member company reports that more than 50 percent of its interstate waste shipments are materials destined for recycling, reclamation, or recovery. Clearly, restricting the interstate movement of these materials will have an adverse impact on the environment by limiting the amount of materials available for recycling, recovery, or reclamation and by discouraging those practices. Such a result is not consistent with, and, in fact, runs counter to the "conservation" and "recovery" goals of RCRA.

### *5. There are Compelling Reasons not to Restrict Interstate Transportation of Industrial Wastes.*

a. Land Ban Restrictions.—In developing the RCRA Land Disposal Restrictions (LDR), EPA focused on nationwide capacity. Any restrictions on interstate move-

ment of hazardous waste will severely disrupt the LDR program. Generators may be unable to treat their wastes if they cannot gain access to the capacity identified by EPA which is located in another State.

b. Transportation of industrial non-hazardous waste to a hazardous waste treatment or disposal facility to be managed as hazardous waste.

In response to concerns relating to potential future Superfund liability, some companies choose to manage some non hazardous wastes in hazardous waste facilities because these facilities are currently more protective of human health and the environment. Because the definition of acceptable management practices continues to evolve, companies often choose the most conservative approach available. Given the limited number of hazardous waste facilities, restrictions on interstate transport could result in management practices that are legally acceptable but less protective of health and the environment.

c. Intra-company transfers.—Intra-company shipments of industrial waste allow a company to consolidate waste management operations and to practice "cradle-to-grave" management of waste. Because the generator typically knows a waste's properties better than anyone else, that company is in the best position to evaluate the most appropriate treatment or disposal techniques for that waste.

Consolidated waste management programs allow a company to maintain control of its wastes so as to minimize potential future liabilities. In addition, an integrated waste management system allows a company to achieve economies of scale by combining similar or compatible waste from several generator sources, as well as site management units in the best locations. Significantly, such internalization programs greatly reduce the demand for limited commercial capacity.

d. Transportation of waste from environmental cleanups.—Industry, and government as well, moves wastes across State lines as part of environmental cleanups such as Superfund response actions, RCRA corrective actions, and voluntary cleanups. When wastes are removed from Superfund sites, generators must find suitable management facilities. State and local government, as well as industry, conduct cleanup activities that generate hazardous and non-hazardous waste that need proper management. In addition, many governmental entities (DOD, DOE, utilities and publicly owned wastewater treatment plants) generate solid waste and conduct remediation. In all likelihood, the volume of such remediation wastes will continue to increase for the foreseeable future. Restrictions on interstate movement of these wastes could significantly delay these cleanups.

#### 6. Pollution Prevention will Reduce, but not Eliminate, Industrial Waste.

The chemical industry is actively working to reduce waste generation through voluntary pollution prevention programs. However, minimization of waste does not mean eliminating all waste. In fact, some of the most promising techniques for minimizing waste still result in generation of other waste residues that require treatment or disposal. Although waste minimization efforts will reduce the amount of wastes generated, industry will continue to generate wastes that require proper management. That management may require transporting wastes across State lines.

#### 7. Congress Should Fashion Solutions that Acknowledge the Complexity of the Problem of Waste Management.

In particular, waste flows from the chemical manufacturing industry are complex and cannot be addressed by simplistic or uniform solutions. Waste management techniques and waste volumes may vary dramatically from company to company as illustrated by the data below. Two large CMA member companies analyzed their interstate waste transportation as summarized in the following table. We emphasize that this data only reflects actions of the two companies. This data can not be extrapolated to all CMA members, the chemical industry as a whole, or all generators of industrial waste.

### Interstate Industrial Waste Shipments

Waste Volumes (percent of total company interstate waste shipments)

	Company A	Company B
I. Industrial waste shipped to out-of state commercial facilities for recycling, reclamation, or recovery		
A. Non-hazardous industrial waste.....	60.2	7.0
B. Hazardous Waste.....	3.8	6.9
Total.....	64.0	13.9

## Interstate Industrial Waste Shipments—Continued

Waste Volumes (percent of total company interstate waste shipments)

	Company A	Company B
II. Intra-company transport of industrial waste out-of-state for recycling, reclamation, or recovery		
A. Non-hazardous industrial waste.....	9.3	10.5
B. Hazardous Waste.....	0.1	0.0
Total.....	9.4	10.5
III. Industrial waste shipped to out-of-state commercial facilities for treatment or disposal		
A. Non-hazardous industrial waste.....	10.2	10.7
B. Hazardous Waste.....	3.8	7.6
Total.....	14.0	18.3
IV. Intra-company transport of industrial waste to out-of-state treatment or disposal facilities		
A. Non-hazardous industrial waste.....	2.74	1.7
B. Hazardous Waste.....	9.9	15.6
Total.....	12.6	57.3

As indicated by the previous table, there are significant differences in the way Company A and Company B manage their waste. The majority of Company A's out-of-state waste is transported for recycling, recovery, or reclamation and only a small portion is transported to company owned or operated facilities for treatment or disposal. In contrast, the majority of Company B's waste is transported to out-of-state company owned or operated facilities to be managed as part of their internal integrated waste management program.

Allowing States to ban imports of wastes, or to charge differential fees for disposing wastes from another State, addresses the symptoms but ignores the underlying problem: the failure of States to site critically needed waste treatment and disposal facilities.

Sanction schemes such as differential fees will not encourage exporting States to site industrial waste treatment or disposal facilities because the fees will be borne by the waste generator rather than the siting body—the States. Many States have been unwilling to site facilities due to pressure from citizens. Citizens that are reluctant to allow waste management facilities in their own State are seldom forced to pay directly for that choice.

The Capacity Assurance Plan (CAP) process was intended to ensure hazardous waste capacity in each State by encouraging States to site hazardous waste facilities where needed or make other provisions to manage the hazardous waste generated within their State. However, without meaningful sanctions, the CAP process has been generally ineffective. Although States that fail to comply with the capacity assurance provisions are threatened with loss of Federal Superfund money, EPA has been reluctant to withhold Superfund money from non-complying States because such sanctions would discourage needed cleanup projects.

If Congress is looking for an effective way to apply sanctions directly to States, an approach similar to the one taken in the Clean Air Act Amendments of 1990 may be appropriate. Those amendments impose sanctions on any State that fails to adequately plan for attainment of air quality standards by imposing construction bans and restricting highway funds.

## C. INTERSTATE WASTE RESTRICTIONS CONCLUSION

The chemical industry is committed to reducing wastes. However, industrial wastes, both hazardous and non-hazardous, must continue to move freely in interstate commerce to facilitate appropriate recycling, treatment, and disposal. It is critical that industrial wastes continue to be treated and disposed of at those facilities that provide the most appropriate and protective management, regardless of where those facilities are located. Congress should encourage State planning for the most efficient waste management systems that are protective of public health and the environment. In addition, all material transported for recycling, recovery, or reclamation must remain unrestricted. Because any restrictions on interstate waste transport could significantly affect other aspects of waste management, if Congress determines that it must address issues relating to the interstate movement of waste, it should do so only in the context of a comprehensive RCRA reauthorization.

[Attachments to this statement have been retained in committee files.]

## PREPARED STATEMENT OF DAVID J. LENNETT

### INTRODUCTION

Thank you for this opportunity to testify. I am David J. Lennett, an attorney in private practice with over a decade of experience in working on the nation's programs for managing industrial hazardous and nonhazardous wastes. I am presenting this testimony on behalf of the Environmental Defense Fund, a nationwide environmental advocacy group with over 200,000 members. EDF's Toxics Program has long been actively involved with the Resource Conservation and Recovery Act (RCRA). EDF participated in legislative work before the Congress at the time of RCRA's initial enactment as well as during the 1980 and 1984 Amendments. EPA also takes part in administrative proceedings before the Environmental Protection Agency (EPA), which has primary responsibility for implementing RCRA, by submitting comments on many major regulatory proposals and participating in numerous public workgroups. In addition, where EPA fails to carry out RCRA as enacted by Congress, EDF brings litigation to compel adherence to congressional mandates.

### NATURE OF THE PROBLEM

Simply stated, enormous quantities of industrial wastes are land disposed in the United States, and a substantial portion of it is disposed of inadequately. An estimated 7.6 billion tons were land disposed in 1985 according to EPA, excluding mining wastes, and excluding wastes from oil and gas exploration and production operations. As explained immediately below, most of this land disposal is occurring in units lacking basic engineering controls and monitoring systems. The data provided immediately below are contained in EPA's October 1988 Report to Congress on Solid Waste Disposal in the United States, and attached to this testimony are tables from the Report in which much of the data are provided.

Almost 97 percent of the land disposal takes place in surface impoundments. Yet only approximately 22 percent of the impoundments contain a liner of any type or quality. Similarly, a mere 5.5 percent of the impoundments have leak detection systems and only 23 percent are equipped with overtopping controls. Therefore, the vast majority of impoundments do not contain design features capable of preventing or minimizing waste releases out-of the bottom or over the top of the impoundments. Moreover, despite the lack of important design components, less than 9 percent of the impoundments are monitored for potential groundwater quality impacts.

These data are particularly disturbing because surface impoundments contain liquid wastes that are most amenable to migration and thereby contamination of the environment. Accordingly, the combination of liquid wastes in unlined and unmonitored units is a matter of great concern, particularly in industries where the concentration of contaminants in the wastes are substantial. Indeed, it was precisely this disposal scenario that led Congress to require the retrofitting of hazardous waste surface impoundments as part of the 1984 RCRA amendments.

Industrial waste landfills also lack the means to prevent or monitor environmental contamination. Less than 13 percent of the landfills are lined, only 3.2 percent are equipped with leachate collection systems, and less than one-third are equipped with run-on/run-off controls. For comparison purposes, over twice as many municipal waste landfills are lined and over three times as many are equipped with leachate collection systems. Despite the relative lack of engineering systems, groundwater monitoring is conducted at a fewer percentage of industrial waste than municipal waste landfills (35 percent for municipal waste landfills vs. 18 percent for industrial waste landfills).

Comparable data on the design of industrial waste piles are not available, but there is no reason to believe waste piles have been designed substantially better than other land disposal units. With respect to industrial waste land treatment units, the majority are subject to some operating conditions governing waste types and application limits. However, less than 11 percent of the units are equipped with groundwater monitoring systems to ensure those conditions are effective.

The prevalent lack of design and monitoring systems documented by EPA is evidence that the present regulatory framework for industrial wastes is not working. State programs contain significant gaps in coverage, procedures, and/or requirements, and the current Federal requirements are ineffective and unenforced.

For example, in its April 1990 report on industrial wastes, GAO generally describes the industrial waste regulatory programs in six States. In all but one State,

one or more categories of surface impoundments were exempt from permitting requirements and therefore environmental controls. Equally important, there was no pattern to the exemptions, therefore the States were not providing a baseline level of protection across jurisdictions. Some of the exemptions were based solely upon the age of the impoundment, an instance where the oldest and perhaps highest risk units were receiving the least regulatory attention. In one State, Texas, exemptions from permitting were provided for units within 50 miles of the waste-generating site, irrespective of the risk posed by the wastes.

Even where permits were required, the percentages of lined surface impoundments ranged from 11 percent in one State to 100 percent in another, thereby indicating the wide variability in how design standards are imposed. Similarly, the percentage of surface impoundments where groundwater monitoring was required ranged from 5 percent-50 percent.

Of the 16 State regulatory programs governing surface impoundments reviewed in EPA's Report to Congress, only half required information on groundwater in their permit applications, and only seven specified any type of liner specifications. Similarly, location standards to protect geologically sensitive areas existed in less than one-third of the studied States.

State enforcement authority was also deficient. Less than one-fourth of the States had administrative authority to undertake direct cleanup of waste sites and civil penalty authority for violations of law was only available in two-thirds of the States. Maximum penalties in these States were as low as \$300. Clearly, insofar as the current Federal requirements in 40 CFR Part 257 are intended to ensure a baseline level of protection throughout the United States, they are ineffective. The reasons are fairly straightforward. They are vague or silent in important areas, such as groundwater monitoring, design, closure and post-closure, and corrective action requirements. Their applicability to units other than landfills is also uncertain at best, and Federal enforcement capabilities are lacking on both a programmatic and facility-specific basis. It is not surprising that EPA found in its Report to Congress that a minority of States had adopted the Federal criteria.

To its credit, Congress recognized the shortcomings of the Federal requirements during the previous RCRA reauthorization process, and amended Section 4010 of RCRA to require EPA to strengthen the requirements by March 31, 1988. Unfortunately, EPA has not even issued a notification form for industrial facilities in the seven years since Section 4010 was amended, let alone promulgate substantive improvements. This track record must be kept in mind as Congress considers further legislation on industrial wastes.

Another point to keep in mind is that while the industrial wastes discussed today are not considered "hazardous" under Federal law and therefore not regulated under Subtitle C of RCRA, some of these wastes are just as dangerous as regulated hazardous wastes, and others pose risks of only a slightly smaller magnitude. As you know, Congress enacted a series of provisions in 1984 that were intended to expand the types and quantities of wastes regulated as hazardous. Most have not been fully implemented to date, particularly the new waste listings mandated by Section 3001(e) of RCRA.

Only one new characteristic has been promulgated since 1984, and EDF and EPA are now engaged in litigation over whether this one rulemaking is sufficient to satisfy the Congressional mandate in Section 3001(h) of RCRA to promulgate additional characteristics. If EPA's position is upheld, the only characteristic related to toxicity will be limited to 39 constituents and those constituents will be considered in the context of only one potential exposure pathway. For comparison purposes, there are almost 400 constituents that EPA has identified could cause a waste to be listed. In addition, there are toxic chemicals that must be reported under the TRI provisions of Superfund that are not on EPA's list of hazardous constituents in RCRA.

Similarly, the last sentence of Section 3001(b)(1) of RCRA requires EPA to identify or list wastes based upon the presence of carcinogens, mutagens, or teratogens in the waste at elevated concentrations. EPA has taken no action to implement this mandate in the seven years since the mandate was enacted.

Therefore, it is clear that some wastes not yet considered hazardous should be regulated under Subtitle C of RCRA. However, even if and when the existing and any newly enacted Congressional mandates in the hazardous waste identification area are fully satisfied, it is unrealistic to assume the Agency will ever completely identify or list the universe of wastes warranting hazardous waste regulation.

Characteristics are intended to capture only those wastes that are clearly hazardous, so regulatory thresholds are deliberately set high. Listings are intended to fill the gaps in coverage but, as implemented by EPA, they are extremely resource intensive and EPA does not allocate substantial resources to this area. As a result, not

until 1998 will EPA finish the listings Congress mandated for completion by 1986. The same factors explain why GAO noted in its 1990 report that over 100 production wastes in the pesticide, organic chemicals, dyes and pigments, and plastics and resins industries may warrant listings, but the Agency could not determine when action on these wastes may be taken.

The lack of resources is also used to justify the continuation of acknowledged mistakes in judgment or procedures. In 1980, EPA exempted from regulation seven previously listed tannery and titanium dioxide production wastes because these wastes contained trivalent chromium, a form of chromium the Agency did not believe would oxidize into the more toxic hexavalent chromium under most plausible types of improper waste management. See 45 Fed. Reg. 72037-39 (October 30, 1980). However, first on April 29, 1985 (see 50 Fed. Reg. 17822) and then again on March 29, 1990 (see 55 Fed. Reg. 11812), the Agency indicated conversion to hexavalent chromium may occur in a number of environmental situations, therefore the 1980 reasoning was no longer valid. Still, the exemption for the seven wastes remains in effect.

Likewise, on May 28 and December 2, 1986, EPA narrowed the scope of two waste listings, not because the wastes proved to be less toxic than previously thought, but because the wording of the original listings or the 1980 Background Documents supporting the original listings were deficient. EPA has taken no action to reevaluate whether the original listings should be restored.

Given this reality, improvements in hazardous waste identification and the Subtitle D industrial waste regulatory program are both needed. While comprehensive damage assessment information is not available on so-called nonhazardous waste facilities, the threats posed by these facilities are real and documented to a substantial degree. For example, GAO reported that 32 of the 112 facilities with groundwater monitoring in California and New Jersey have contaminated groundwater. At an additional 36 facilities contaminated groundwater was also present, but it is less certain whether the industrial waste landfill or surface impoundment is the source of the contamination at those facilities.

Officials from six other States GAO interviewed uniformly indicated a concern that industrial waste landfills and surface impoundments would contaminate groundwater. Five of the six States had experienced damage cases.

The extent of cleanup that will be triggered under Section 3004(u) of RCRA is also an indication of the dimensions of the problem. Under this provision, facilities receiving a hazardous waste permit are also responsible for addressing releases from nonhazardous waste units at the facility. Significantly, the average facility contains many more solid waste management units than hazardous waste management units.

#### PRINCIPLES FOR PROGRAM DEVELOPMENT

Before commenting on the provisions of S. 976, it may be helpful to briefly describe the four principles that form the basis for these comments. These principles are derived from our collective experience in hazardous waste program development, as well as substantial discussions with representatives of States and the regulated community.

1. Given the number of facilities engaged in industrial waste management, the permitting program should be developed in phases and focused initially on land disposal as the method of management posing the greatest risk. A phased development would provide the critical advantage of targeting EPA/State resources where the environmental gains are greatest.

2. Given the number of facilities potentially requiring an industrial waste management permit, and the time it has taken to permit a much smaller number of hazardous waste facilities, reliance on the permitting mechanism alone to achieve substantial facility improvements within the next four years will prove ineffective. Other mechanisms besides permitting must be explored if significant progress is to be made within the next four years.

3. Broad discretionary mandates to EPA produce disappointing results, but carefully crafted provisions based upon clear statements of Congressional policy produce substantially greater environmental gains. In 1976, Congress provided EPA with a broad discretionary mandate to develop a hazardous waste regulatory program. The result was a program so filled with shortcomings that Congress was forced to rewrite many of the rules during the enactment of the 1984 RCRA Amendments. Similarly, the generalized RCRA Section 4010 mandate requiring EPA to upgrade the industrial waste regulatory program has produced absolutely no results in the last seven years. Simply stated, EPA does not function well if it must make numerous and substantial policy decisions during the course of program development, particularly where EPA and other Federal agencies disagree over the importance of



protecting groundwater for future uses. In contrast, where Congress establishes clear national policy, such as in the loss of interim status and surface impoundment retrofit standards in Subtitle C of RCRA, the result was a swift reaction by the regulated community one year after enactment to close most unlined surface impoundments and employ superior waste management practices.

4. Regardless of the structure and standards that form the regulatory program, resources are an essential element of ensuring the program will work where it counts—in the field. At the present time, both the Subtitle C and D regulatory programs are in desperate need of funds at the State and Federal levels, and it is unrealistic to assume general tax revenues will ever bridge the gap between the amounts currently available and the amounts needed.

#### S. 976

Implicit in Sections 403 and 404 of S. 976 is a recognition that the present regulatory framework governing industrial wastes is inadequate and must be quickly addressed. EDF agrees. The bill also clearly recognizes the resource shortfalls plaguing EPA and State programs, and proposes a fee system for funding the program which is a concept EDF strongly endorses. The Subtitle C program warrants a similar approach.

However, the heart of the regulatory program envisioned in S. 976 is a permit that would be required for all facilities within four years of enactment, based in large part upon standards EPA is required to issue within two years of enactment. As an organization which frequently enforces Congressional deadlines through litigation against EPA, EDF is virtually certain that these deadlines will not be met. The result will be delays in achieving substantial facility improvements. Moreover, not only must many thousands of permits be issued within four years under S. 976, but State plans must be prepared and approved as well. This work load is daunting given current EPA and State capabilities, but more importantly it may not be necessary to accomplish all these tasks at once if a phased program is established as described below.

EDF is also concerned that crucial regulatory decisions are left to EPA's discretion under the "Administrator shall consider as appropriate" standard under Section 404 of S. 976. Requiring EPA to "consider" something is a far cry from requiring EPA to promulgate a substantive requirement. Accordingly, basic regulatory provisions such as groundwater monitoring for land disposal units are left in doubt.

In addition, while EPA would be required to promulgate standards necessary to protect human health and the environment, the Agency must also take into account the "practical capability" of facilities. These dual and conflicting standards further expand EPA's discretion to promulgate no or weak standards, particularly since "practical capability" is not defined or explained. Moreover, "practical capability" should not be at issue for owners/operators of land disposal units since only larger firms tend to manage wastes onsite and a firm with "practical capability" shortcomings should not be managing industrial waste disposal facilities.

Given the current conflicts between EPA and other Federal agencies over the need to protect groundwater for future generations, it is imperative Congress provide EPA with clear policy direction on the importance of preventing or minimizing groundwater contamination by designing and operating facilities properly in the first instance. Federal standards which emphasize the importance of utilizing appropriate engineering systems but are flexible enough to provide for the consideration of site-specific facility features through variance procedures can and should be crafted.

Several other aspects of S. 976 are worth noting:

- Guidelines for all land disposal units except land treatment units are required under Section 404(a) of the bill. EDF is unaware of any basis for this omission.

- The bill does not include a provision comparable to Section 3006(f) of RCRA that would ensure citizen access to information on industrial waste facilities.

- The applicability of citizen suit authority to enforce State permits under Section 7002 of RCRA should be clarified.

- Under Section 402(b) of the bill, State plans are considered approved for at least one year even if the plans are deficient, provided EPA does not disapprove of the plan within six months of receipt. This form of "approval through inertia" merely encourages EPA to avoid making tough decisions, and will result in confusion months or years later when a deficient plan's approval expires by law or is successfully challenged in court. For example, what is the status of State permits issued under a plan "approved through inertia" but subsequently disapproved? Must the permits be reissued, and are the facility owners/operators subject to immediate enforcement action for operating without a valid permit when the "ap-

proved through inertia" plan is subsequently disallowed? In addition, can a plan "approved through inertia" be challenged under the judicial review provisions of Section 402 even though the provisions refer to review of the "Administrator's action"? If not, what recourse is available to challenge a deficient plan "approved through inertia"?

● The ability of EPA and citizens to ensure State programs are adequately administered and enforced, once State plans are approved, appears unduly limited. The criteria for State plan approval focus on State authority, not capability, and opportunities for systematic oversight after State plan approval are not explicitly provided. Moreover, under Section 408 of the bill, EPA is prevented from taking enforcement action in an approved State without providing 60 days notice to the State and the permit violator. While coordination between EPA and State agencies in enforcement cases should certainly be encouraged, restricting the Agency's authority to respond to problem sites is not the appropriate way to encourage such cooperation.

As discussed above, EDF recommends a multi-phased approach for the industrial waste permitting program, and recommends the first phase of the permitting program focus on land disposal facilities. In addition, given the time that will be required for the promulgation of standards, program approvals, and the issuance of permits, Congress should enact a prepermitting set of requirements in the statute applicable to land disposal facilities that will become effective over the next several years. Among the requirements that may be imposed under such a scheme are:

1. Groundwater monitoring, so that crucial information on a facility's environmental impact is obtained as soon as possible;

2. A site characterization in which available information is collected and reported on past and present releases at the site. Such information will improve the owner/operator's understanding of the facility's potential environmental impact, alert regulators to particularly pressing problems and thereby facilitate the setting of permitting priorities, and form the basis for permitting conditions at the time of permitting;

3. Corrective action authority akin to Section 3008(h) of RCRA under which EPA or the States are able to effectively respond to detected site contamination before permitting and before contamination rises to a level of an imminent and substantial endangerment; and

4. Closure requirements for land disposal facilities which accept wastes after enactment but will not obtain a permit to operate, under which clean closure is performed or jurisdiction to require a permit for post-closure care of the site is clearly provided.

In addition to these requirements imposed upon facilities, several first-phase requirements are appropriate for large generators of industrial wastes as well. First, waste characterization and testing requirements may be imposed. Such testing requirements are necessary so that generators are aware of what their wastes contain, can make rationale management decisions based upon hard data, and groundwater monitoring can be improved to include site-specific constituents of concern. In addition, EPA may utilize the test results to developing Subtitle D standards or take appropriate action under Subtitle C of RCRA.

Waste testing also assists the development of waste minimization planning and reporting requirements, the second first-phase requirement applicable to generators that EDF proposes. This requirement would generally follow the existing provision of the Pollution Prevention Act of 1990, but specifically target RCRA hazardous constituents and apply the requirements to large quantity generators that may not be subject to TRI reporting requirements.

Significantly, the waste generator requirements should be targeted as well so they are applied to the wastes posing the greatest risk based upon available data. Distinctions among waste generators may be made according to volume and/or industrial category. One of two available sources for setting priorities among industrial categories is EPA's 1988 Report to Congress, in which EPA qualitatively characterizes the concentration of toxic constituents in wastes from various industrial waste categories as "high", "moderate", and "low". The second source is TRI reporting data, where quantities of chemical releases to land and water can be divided by four digit SIC code.

Interestingly, when reviewing the two sources of data, some industrial waste categories appear to be a priority concern under either approach. They include fertilizer and other agricultural agents, industrial inorganics and chemicals, petroleum refining, primary iron and steel manufacturing and ferrous foundries, and primary non-ferrous metals manufacturing and non-ferrous foundries. Similarly, food and kin-

dred products; pharmaceuticals; soaps and other detergents; stone, clay, glass and concrete; and textiles appear to be low priority waste categories.

Other waste categories were not ranked in the Report to Congress at all, but the TRI data indicates high chemical loadings to land and water. They include synthetic rubber and manmade fibers, paints and varnishes, and chemical preparations such as adhesives and inks. The remaining waste categories fall somewhere in between, or the sources differ as to their environmental significance.

The pre-permitting requirements can be effectively enforced in advance of State program development and EPA approval. As Federal statutory requirements, EPA would be provided with clear enforcement authority. States would be able to enforce the requirements under State law if their programs contained comparable provisions, or States could utilize the Federal citizen suit authority to bring enforcement actions even in the absence of analogous State requirements. Similarly, citizens may bring enforcement actions under Section 7002 of RCRA.

To further ensure compliance, applicants for air and water discharge permits should be required to meet the pre-permitting RCRA industrial waste requirements prior to obtaining the air and water discharge permits. Certifications of compliance may be required, for example, in air and water discharge permit applications.

#### CONCLUSION

EDF applauds your efforts to upgrade industrial waste management. We appreciate the opportunity to testify and look forward to working with you in the months ahead.

[Attachments to this statement have been retained in committee files.]

#### PREPARED STATEMENT OF DAVID BOLTZ

Mr. Chairman and Members of the subcommittee, I am David Boltz, Manager of Waste Management Programs in the Environmental Affairs Department of Bethlehem Steel corporation. I am here today on behalf of the American Iron and Steel Institute (AISI), the principal trade association of the iron and steel industry. AISI member companies comprise about 80 percent of the nation's steel production capacity.

This written statement is intended to provide AISI's position on the industrial waste provisions contained in S. 976. In addition, the statement discusses hazardous and solid waste recycling regulation, and some other matters addressed in S. 976 and other pending legislation, which have been the subject of previous hearings before the subcommittee.

#### REGULATION OF INDUSTRIAL WASTE STREAMS

The steel industry recognizes that a number of waste streams exist that are not currently regulated under Federal law, yet pose concerns due to their potential effect on human health and the environment when they are mismanaged. AISI believes that Federal regulation of these waste streams should take place under amendments to subtitle D, rather than by any additions to the coverage of subtitle C's hazardous waste regulations. Industrial waste streams should be the subject of Federal minimum requirements for waste management, with regulation and any permitting carried out by the States. Such a program for industrial wastes should establish controls appropriate to the degree of hazard or potential for harm actually presented by the waste and the proposed method of management.

For the purposes of this statement, the term "industrial waste" is taken to have the meaning provided in section 104 of S. 976.

#### INDUSTRIAL WASTE STREAMS

You asked AISI to identify those industrial waste streams that pose the greatest concern to human health and the environment, and to comment on whether some industrial wastes contain toxic constituents at levels as high as some hazardous wastes. Wastes represent a potential hazard only to the extent that any hazardous constituents contained in the material can be released into the air, water or land. The relative concentration of a hazardous constituent in a waste is sometimes a major factor in the composition of that waste's leachate. However, if that constituent is chemically bound to other elements or compounds that render the constituent immobile or virtually unleachable, the concentration of the constituent is of little consequence.

This principle is strikingly illustrated in chemical stabilization technology, which EPA has adopted liberally in specifying "Best Demonstrated Available Technology" for purposes of RCRA's Land Disposal Restrictions program. Such chemical stabilization techniques treat hazardous wastes to render them less hazardous or even non-hazardous. Therefore, the mere presence of hazardous constituents in a waste should not be the basis for classifying that waste as hazardous or non-hazardous, or for establishing a regulatory regime for that waste.

#### ROLE OF THE FEDERAL GOVERNMENT

The appropriate Federal role in developing and implementing an industrial waste regulatory program is to assure a "level playing field" for all industry by establishing minimum management standards for such wastes. It is my experience that industrialized States such as Pennsylvania, New York and Indiana have already established comprehensive industrial waste regulations. Any measures to establish such a level playing field should provide flexibility for States, allowing them to incorporate Federal standards into existing State programs and to use permit programs that may vary substantially from the Federal model, but provide the same degree of protection.

#### MANAGEMENT STANDARDS FOR INDUSTRIAL WASTE FACILITIES

Not all industrial waste landfills or surface impoundments require liners and leachate collection systems. Retrofit of existing facilities would be highly costly, and may offer little environmental benefit. Even in new facilities, elaborate liner and leachate collection systems are not justified by the risk posed by the waste being managed. However, basic ground-water monitoring is probably necessary at all land-based facilities.

EPA's hazardous waste regulations do not reflect the "degree of hazard" presented by the waste in establishing management standards. In a much preferable approach, many States differentiate among industrial wastes on the basis of leachate and other relevant characteristics, and specify management standards accordingly. AISI recommends that Federal guidelines for industrial wastes use a similar classification system.

#### CORRECTIVE ACTION

S. 976 appears to require corrective action for all releases of hazardous constituents from any solid waste management unit (SWMU) at facilities managing industrial waste or municipal solid waste and subject to the new permitting requirements. The language establishing this corrective action requirement is almost identical to that used in section 3004(u) of current law.

Section 3004(u) of RCRA requires that any person seeking a permit under Subtitle C take corrective action for all historic releases of hazardous waste or constituents from any solid waste management unit at a treatment, storage or disposal facility. A key issue in the development of regulations to implement corrective action is the determination of the appropriate point of compliance for ground-water standards. EPA seems to prefer a point of compliance at the boundary of each and every SWMU at a facility, while AISI believes that protection of human health and the environment can be assured by meeting ground-water standards at the property boundary of the entire facility.

To explore the cost implications of these interpretations, AISI retained an experienced consultant, Remcor, Inc., to analyze the impact of corrective action on a hypothetical steelmaking facility with the point of compliance at each SWMU boundary. The processes, products, operating history, waste streams, number of SWMUs, and geological settings of the model facility represented a typical American steel plant. The study revealed an estimated cost of \$3 billion for the steel industry to design and implement required corrective measures with the point of compliance at the SWMU boundary.

To consider the alternative to this extremely costly situation, AISI directed Remcor to conduct a supplemental study to determine the change in corrective action costs that would accompany a shift in the point of compliance from the SWMU boundary to the plant property boundary. The study demonstrated that such a change could result in a reduction in cleanup costs of at least 50 percent, without significantly reducing the degree of protection of human health and the environment.

In the consideration of alternative points of compliance, it is prudent to recognize that SWMUs are located on industrial sites not accessible to the general public. Procedures much less costly than the massive removal and redeposition of contaminat-

ed SWMUs and soils, and extensive treatment of ground water onsite, will be adequate to assure that the public is never exposed to contaminated ground water. Also, today's practical reality is that real estate transfers will require cleanup on the property to levels commensurate with intended use.

AISI appreciates Senator Durenberger's efforts to support our proposed changes in section 3004(u), and the bill he introduced previously recognizes this concept, including a mechanism for addressing any contamination remaining on the property at the cessation of active manufacturing operations. (S. 1002, May 16, 1989, defines corrective action for the steel industry as including ground-water compliance at the facility property boundary.) Therefore, as a point of compliance at the property boundary neither poses an imminent risk to the general public, nor precludes plant-wide cleanup activities when ultimately needed, it seems that a point of compliance at the SWMU boundary represents "cleanup for cleanup's sake".

The public policy goal of any corrective action requirements should be to prevent or contain and remediate the flow of industrial contamination beyond the boundaries of an industrial site, not to impose unnecessary and prohibitively expensive requirements to remediate individual SWMUs within each site. Therefore, AISI requests that you direct EPA to specify a facility's property boundary as the point of compliance for ground-water standards, at least for the steel industry. As you know, AISI has been seeking changes in section 3004(u), and we would urge you to incorporate those changes into S. 976, not only for subtitle C corrective action, but also for any other corrective action requirements adopted for industrial waste streams.

A closely related matter involves financial assurance for corrective action. Companies must provide financial assurance for the costs to perform the corrective action required under section 3004(u) of RCRA. It is crucial that EPA develop adequate and appropriate financial assurance requirements that will not have a devastating impact on a significant portion of the regulated community. We suspect that EPA will apply the financial assurance mechanism found in 40 C.F.R. Part 264, Subpart H to corrective action financial assurance. However, this regulation—which was developed for the relatively modest hazardous waste closure and post-closure care costs—does not work in the context of huge corrective action costs.

AISI, as well as other industry associations we have talked with, believes that new financial assurance regulations must be developed for the RCRA corrective action program. Such regulations should be structured to measure the financial strength of companies, reflect recent changes to required accounting practices, and provide flexibility in providing means to fulfill financial assurance obligations. A legislative mandate would be helpful in assuring that an appropriate financial assurance mechanism is implemented for corrective action. Again, this is necessary both for section 3004(u) corrective action and for any other corrective action requirements for industrial waste.

#### SOLID WASTE RECYCLING

Although we recognize that the recycling operations of some companies have not been completely environmentally sound, AISI does not believe that this justifies the regulation of all solid waste and secondary material recycling activities. To determine the types of recycling activities that should be regulated, consideration must be given to both the nature of the material being recycled and how it is being managed. For example, we do not believe that it is necessary to regulate recycling activities that are similar to production operations, such as the blending of wastewater treatment sludge with other raw materials that comprise the feed to a sintering plant, a key part of a steel mill.

The steel industry has several examples of recycling activities for materials that would be considered hazardous wastes if they were not exempt from RCRA regulation. These secondary materials are now handled in such a way that they pose no threat to human health and the environment, and additional regulation would provide no environmental benefit. Spent pickle liquor (K062), a high volume wastewater, is commonly used beneficially as a water treatment chemical. K062 destined for use in water treatment is not regulated under RCRA. Spent pickle liquor is also typically regenerated to recover usable acid. That process is not regulated under RCRA, except for storage facilities.

Another example of such recycling is coal tar decanter sludge (K087). K087 is typically returned to the coke ovens from which it originates. Under the recently promulgated EPA rule regarding burning of hazardous wastes in boilers and industrial furnaces (BIF), the practice of recycling K087 to the ovens is exempt. This exemption was based upon an AISI demonstration and petition that coke produced when recycling K087 was no different than coke produced in the absence of that recycling.

Other coke plant wastes recently proposed for listing as hazardous are also proposed for exemption from regulation if recycled to the coke ovens.

Electric arc furnace dust (K061) is subject to the land disposal restrictions, requiring the material to be stabilized prior to land disposal or to be processed in high temperature metal recovery (HTNR) units. K061 that is returned to the furnace, whether directly or after briquetting or pelletizing, is considered beneficially recycled and not subject to RCRA regulations. This exemption should continue.

Where regulation of recycling activities is justifiable, our preference is the liberal use of the class permit or permit by rule, without the imposition of costly and largely unnecessary permit requirements such as post-closure care, financial assurance, and plant-wide corrective action.

#### COMMODITY-SPECIFIC MINIMUM RECYCLED CONTENT AND UTILIZATION STANDARDS

In the interest of promoting more recycling to conserve natural resources, reduce energy consumption, and minimize waste, S. 976 proposes nationally mandated minimum standards for recycled materials in various commercial products. The primary thrust of these proposals is recycling of post-consumer materials. AISI is concerned with the provision in section 302 (new section 6006 of the Act) that directs EPA to promulgate commodity-specific recovery and utilization standards for metals and other materials based on the maximum feasible recovery and utilization rates on the basis of the "best available recycling and manufacturing technology and practices".

Steel is presently the most recycled material in commerce, and more steel is recycled than all other materials combined. Scrap accounts for well over half of the raw steel production in the United States. However, steel scrap is not used in the same proportion in all steelmaking processes or for the production of all steel products. Commodity-specific utilization standards must recognize the two fundamentally different ways steel is produced in the U.S. today. Electric arc furnaces (EAFs) use virtually 100 percent scrap, but produce only 39 percent of domestic steel. Basic oxygen furnaces (BOFs) use 15 to 25 percent scrap combined with smelted iron ore, and produce 59 percent of domestic steel.

These ratios of recycling rate to total production would be virtually impossible to change over the compliance period suggested in S. 976; moreover, it would make no practical sense to do so. BOFs are located in larger integrated mills that produce flat-rolled steels such as those used in the automobile, appliance, and container industries, applications that cannot customarily be accommodated by the EAF process. The nature of the BOF process prevents the use of substantially more scrap without incurring energy penalties. In addition, quality and process control considerations dictate the types and amounts of scrap that can be used in the steelmaking process, both for BOFs and EAFs.

In addition to recognizing the different steelmaking processes in any recycling equation, the different scrap types involved in steel production must be recognized as well. Scrap can be divided into three major categories: recirculated scrap, prompt industrial scrap, and post-consumer scrap. Recirculated scrap is generated within the steel plant. Prompt industrial scrap is produced during the manufacture of steel products such as automobiles, cans, and appliances. Post-consumer scrap has been used by consumers and may include shredded automobiles, steel from building demolition, discarded appliances, or steel cans or other steel products recovered from municipal waste.

It is just as important to recover recirculated and prompt industrial scrap, which account for the majority of the BOF charge, as it is post-consumer scrap. With increased yields and manufacturing efficiencies, the amount of recirculated and prompt industrial scrap is expected to decrease. Therefore, more post-consumer scrap will be needed to account for that shortfall. However, even with these trends quality considerations will limit the proportion of post-consumer scrap used in BOFs.

We are particularly concerned with section 304 (amending section 6002 of existing law), which requires a Federal procuring agency to "give preference in procurement to items produced with the highest percentage of recovered materials practicable", and with section 306 (adding a new section 6008 to the Act), which specifies that a minimum of 50 percent of certain materials—including ferrous materials—used in the performance of Federal contracts worth \$1 million or more be produced from recycled materials. In light of the range of percentage of recycled materials feasibly incorporated into different steel production processes, sections 304 and 306 would leave certain producers at a significant disadvantage. In the case of structural products, for example, which can be made in either scrap-based EAFs or ore-based BOFs,

this requirement could effectively preclude BOF operators from supplying the steel for such contracts. The 50 percent goal would be unattainable with BOFs.

Accordingly, AISI recommends that Sections 304 and 306 be amended to acknowledge the fact that fundamentally different processes are often used to produce the same product. AISI supports efforts to provide incentives for increased recycling of materials. However, the approach of S. 976 to encourage recycling by establishing commodity-specific minimum recycled content and utilization standards must have realistic and attainable goals that reflect the realities of processing technology and the important need to recycle materials other than those classified as post-consumer.

#### INTERSTATE WASTE TRANSPORT

As the municipal solid waste problem has grown in the U.S. and local governments have been faced with rising disposal costs and scarce landfill space or incinerator capacity, the transport of municipal waste to other States or regions of the country has become a common occurrence. In some cases the receiving States are confronted with their own landfill capacity shortages and have tried to take measures to limit or ban out-of-state wastes. In litigation involving these actions the courts have usually rejected these efforts because they abridge principles of free interstate commerce.

Several legislative proposals have been made that would allow States to restrict disposal of wastes shipped from other States. Measures of this nature could be taken if the State of generation could not show that it had a solid waste management plan with adequate capacity to address its own needs. Some proposals do not require even such preconditions.

Municipal solid waste is generated throughout the U.S. and has traditionally been managed by local governments. It makes sense to expect State and local governments to provide means for proper disposal of those wastes. Among the disposal options for local governments, however, should be the ability to make arrangements with disposal firms in other regions of the country where disposal facilities can be more readily sited for geological, economic, or social reasons.

Hazardous waste disposal facilities must comply with much more rigorous siting and operational requirements than municipal solid waste landfills. As a result, there are relatively few RCRA-permitted hazardous waste facilities in the U.S., and some States have no such facilities. If interstate transport of hazardous wastes is allowed to be banned or taxed at exorbitant levels, it will be impossible for industry to dispose of wastes that are generated on a routine basis or in connection with cleanup of waste sites.

Any efforts designed to restrict the interstate transport of wastes in the U.S. should recognize the need of local governments to have a range of options to deal with their municipal solid waste disposal problems, including contractual arrangements with firms outside State boundaries. Interstate transport of hazardous wastes should not be restricted because of the limited number of permitted facilities that can process such wastes. Principles of free interstate commerce should be retained for all waste transportation. To the extent that Congress feels compelled to address the interstate transportation of municipal solid waste, the legislation should be carefully drafted to exclude industrial waste streams.

#### MANAGEMENT OF USED OIL

Oil is widely used as a lubricant for a variety of processes in steel plants. As such, used oil is present in some quantity in many steel plant wastes and recyclable materials.

Under existing RCRA requirements, used oils are already adequately regulated if they are used as fuels and fail to meet used oil fuel specifications, or otherwise exhibit any of the characteristics of a hazardous waste (i.e. corrosivity, reactivity, ignitability or toxicity). These existing requirements are sufficient to limit the potential environmental threat of the mismanagement of used oils.

If used oil were listed as a hazardous waste, millions of tons of otherwise non-hazardous materials in the steel industry, including ferrous scrap, wastewater treatment plant sludges, wastewater, mill scale, and other plant wastes would be classified as hazardous wastes under EPA's "mixture rule". The mixture rule designates a solid waste as hazardous if it is mixture of a solid waste and one or more hazardous wastes listed in Subpart D. classification of these materials as hazardous wastes would create huge waste management problems for the steel industry and add needless operating costs.

Furthermore, broad hazardous classifications of used oils would discourage or inhibit beneficial and environmentally acceptable recycling activities of used oils and other materials that contain incidental quantities of used oils. AISI believes that stringent used oil permit requirements should not apply to generators that recycle their own oils. For example, steel companies routinely filter rolling mill oily waste streams and reuse the recovered oil on-site. Such on-site activities are adequately regulated under the existing regulations.

AISI is pleased that S. 976 does not categorically list used oil as a hazardous waste. Those oils that exhibit hazardous characteristics and the associated recycling activities can be effectively regulated under existing requirements.

#### TAXES ON VIRGIN MATERIALS

To stimulate recycling and greater utilization of secondary materials, proposals have been made to impose taxes on virgin materials used in the manufacture of packaging or certain other products. Many consumer products serve a similar function but are made from different materials. For example, food or beverage containers can be made from steel, aluminum, glass, plastic, or paper, or combinations of these materials. Each product is made from a distinct manufacturing process involving inherently different weights of virgin materials and varying degrees of flexibility or interchangeability between virgin and recycled materials.

Virgin materials taxes established at a flat rate on a per ton basis would automatically discriminate among competing products and would cause market dislocations if set at a level high enough to influence market behavior. Such a tax could distort the allocation of resources among industry sectors and inhibit growth in the affected industries. A variable tax rate to mitigate against these effects would in itself be arbitrary and excessively complex.

Other practical problems, such as determining the material subject to the tax, or the proper point in the production process to impose the tax, would add to the complexity of the administration of any virgin materials tax. For example, in the case of iron ore used in steel production, a determination would have to be made as to whether the virgin material is the total amount of iron-bearing ore, or the iron content of the ore, which may be only 40 percent. In addition, there is no practical way to determine the virgin material content of imported steel products. While it may be possible to impose burdensome recordkeeping requirements on domestic producers to allow administration of a tax, it would be difficult to impose or enforce similar requirements on foreign producers. Thus, suppliers of domestic products would be placed at a competitive disadvantage relative to foreign suppliers.

RCRA reauthorization legislation should not include provisions imposing any type of tax on virgin materials used in the manufacture of packaging products. Such taxes would affect different products to different degrees, distort markets, adversely affect the nation's international trade balance, and unnecessarily complicate the administration and collection of taxes.

#### "DERIVED FROM" AND MIXTURE RULES

Two related provisions of the hazardous waste regulations that have led to unnecessary management costs and practices are the "derived from" rule and the mixture rule. Under the "derived from" rule, the residues of treatment continue to be regulated as hazardous waste, unless affirmatively delisted, if the residues were produced from the treatment of a listed hazardous waste. The mixture rule states that solid waste is a hazardous waste if it is a mixture of solid waste and one or more listed hazardous wastes.

Although EPA's rationale for the mixture rule was to prevent generators from evading subtitle C of RCRA by comingling listed waste with nonhazardous solid waste, even the Agency recognized that the rule could create some inequities. The following example from one of AISI's member companies illustrates one such inequity.

At one time the Plant used electroplating processes for the electroplating of chromium on carbon steel sheet. The estimated average and maximum flowrates of wastewaters from these processes during 1980 were 0.6 and 1.0 million gallons per day (MGD), respectively. This wastewater discharged through a process wastewater sewer system to a central wastewater treatment plant. The estimated average and minimum total process wastewater influent flowrates to the treatment plant during 1980 were 58.8 and 20.3 MGD, respectively. Therefore, wastewaters from the electroplating process averaged about one percent, and did not exceed about five percent, of the total treatment plant influent flowrate during 1980. Nevertheless, because



of the presence in the wastewater treatment plant of a small volume of electroplating wastewater associated with a listed hazardous waste (F006), the entire production of treatment plant sludge—about 40,000 tons per year—was subject to management as a hazardous waste.

AISI recommends, therefore, that RCRA reauthorization legislation establish a de minimis level for hazardous waste constituents, below which mixtures of listed wastes and solid wastes would automatically be exempted from the effect of the present mixture rule. A similar logic should be applied to the "derived from" rule. This reauthorization bill provides the best opportunity to correct the distortions and inequities created by the mixture and "derived from" rules.

#### ADDITIONAL COMMENTS ON S. 976

The proposed title II of S. 976, Toxics Use and Source Reduction, should take into consideration the requirements of the Pollution Prevention Act of 1990, as well as the significant response of American industry to EPA's voluntary pollution prevention initiative, the "33/50" program.

In section 202, the bill states that EPA "shall consider" best toxics use and source reduction methods currently available when setting goals. AISI prefers the language "shall base them on. . .". This section also requires EPA to develop goals "taking into account the cost of achieving such reduction." AISI supports cost consideration in determining goals, and suggests that the language regarding the scope of such consideration be made more clear.

AISI strongly suggests that the products and packaging advisory board that would be established under section 203 include a representative of the steel industry.

As steel cans are an important source of post-consumer scrap, AISI is pleased to see the specific mention of steel cans in the proposed State collection programs in section 203.

Section 403 would establish a one-year deadline to obtain a State permit for notification in States with existing permitting systems. This deadline would be very difficult for most overburdened State environmental agencies to meet, posing major problems for facility owners and operators. Therefore, AISI recommends at least a two-year window to obtain a State permit for notification requirements.

Section 403 would also provide for the possible exemption from permits for recycling facilities as well as their exemption from the permit fee. This section would place a cap on the waste tonnage used to determine the permit fee. If a permit program is retained for such industrial wastes, these provisions should be included.

Thank you for the opportunity to present the testimony of the American Iron and Steel Institute. At a later time, AISI may submit specific legislative suggestions on these and other aspects of S. 976.

#### PREPARED STATEMENT OF WILLIAM H. SHEA

Good morning Mr. Chairman and members of the committee. My name is Bill Shea, and I am the Vice President of Operations for USPCI. I am pleased to be here today to discuss Senate Bill S. 976, The Resource Conservation and Recovery Act Amendments of 1991, and how USPCI manages industrial waste. However, before I start, I would like to briefly tell you about USPCI.

USPCI, Inc. is a wholly owned subsidiary of the Union Pacific Corporation and is an integrated national industrial and hazardous waste management company with over two decades of experience in the environmental field. We are committed to using advanced technologies to ensure safe, efficient and responsible waste treatment, recycling and disposal operations. Our company operates land disposal facilities, ash management facilities, recycling facilities, PCB management facilities, a national laboratory, transportation services and remediation services. We are also developing incineration capacity in two States and additional land disposal capacity in another. In short Mr. Chairman, USPCI is a full service industrial and hazardous waste management company committed to helping other industries manage their waste and the potential liabilities associated with their waste in a safe and environmentally sound manner.

Mr. Chairman, your letter of invitation asked us to comment specifically on Sections 403 and 404 of S. 976, The Resource Conservation and Recovery Act Amendments of 1991. Section 403 specifies the minimum criteria States must adopt for a permitting program for non-hazardous waste. Because USPCI is an industrial and hazardous waste management company, we already meet most of the facility reporting requirements contained in the bill. We believe most States are moving toward this type of program. However, this type of Federal requirement will hasten the

process and will ensure sound programs which are consistent from State to State. Though we support this section as a whole, we would offer one suggestion. We believe that establishing a five year permit life is too short. A ten year term with a five year review would be more reasonable and makes more efficient use of the limited regulatory and technical staff at the State level while still protecting human health and the environment.

Section 404 specifies minimum criteria for the construction of municipal solid waste landfills, requires EPA to issue guidelines for industrial waste landfills, and sets out design and operating criteria for municipal solid waste incinerator ash management. USPCI does not manage municipal solid waste, and we believe it would be inappropriate for us to comment on provisions that deal with waste we do not manage. We do, however, manage industrial waste and are permitting a facility to manage municipal incinerator ash.

Almost three years ago, USPCI formed a separate subsidiary, Municipal Services Corporation, to develop and implement comprehensive municipal solid waste incinerator ash programs. During these three years, we have invested a great deal of time and money toward researching the characteristics of municipal incinerator ash and developing management programs for both its disposal and recycling.

While we support most of the provisions of Section 404 as they pertain to municipal incinerator ash, we do have a few recommendations.

Municipal incinerator ash should not be regulated in any part under Subtitle C of RCRA. Municipal incinerator ash is by no means a hazardous waste. Results of the recent EPA sponsored CORRE Report demonstrated that although laboratory leaching tests may produce failing results, actual ash monofill field leachate, tests at near Federal drinking water standards for metals, and at virtually zero levels for dioxins and furans. The use of any Subtitle C provisions to regulate the management of municipal incinerator ash would only cloud its status creating a very real problem of public misconception. Even if only a few hazardous waste guidelines are used, as Section 404 proposes, it is logical to conclude that the public will consider the ash as hazardous. As a result, the siting and permitting of ash monofills will be placed in real jeopardy. We believe municipal incinerator ash should be regulated under a separate set of regulations or under Subtitle D. The EPA has an array of data on municipal incinerator ash and is equipped to promulgate and issue regulations for its management separate from Subtitle C.

We also do not believe municipal incinerator ash should be co-disposed with municipal garbage. Research indicates that a much higher level of metals may leach from the ash if it is co-mingled with municipal solid waste.

We do have some concern with the proposed regulation of industrial waste in S. 976. There are roughly 180 million tons of municipal solid waste and 250 million tons of hazardous waste generated in this country each year. Statutorily mandated requirements exist for hazardous waste landfills, and your legislation would require standards for municipal solid waste landfills and municipal incinerator ash landfills. However, on the industrial waste side, where an estimated seven billion tons are generated annually, S. 976 would leave it to the EPA to develop criteria. Industrial waste is generated in volumes larger than municipal solid waste and hazardous waste combined, and is potentially more hazardous. Given the length of time it has taken the EPA to develop and issue regulations for municipal solid waste landfills, we believe it would be prudent for the committee to consider statutory landfill requirements for industrial waste.

Our concern regarding industrial waste is not necessarily industry or waste-type specific. Many industries produce waste classified as non-hazardous even though some of this "non-hazardous" waste contains hazardous constituents at concentrations equal to or greater than constituent concentrations that are considered a hazardous waste under RCRA Subtitle C. Industrial waste may present a potential threat to human health and the environment if it contains toxic or hazardous constituents which could be released into the environment through leaching or other degradation mechanisms. Such wastes are produced by a variety of industrial processes and remedial actions, and pose a concern to human health and the environment only when managed improperly. It is the mismanagement of industrial waste, not necessarily the wastes themselves, that represents the greatest threat.

Short of a complete revamping of the RCRA hazardous waste classification, we believe it would be wiser to establish technical requirements for industrial waste disposal that provide the requisite protection. This type of protection would require ground water monitoring, synthetic liner systems, leachate detection, collection and removal systems, and operational and management procedures which would ensure the proper and safe management of industrial waste. The Federal Government

should develop and establish the minimum program requirements and delegate the management of the program to the States.

By establishing a floor from which to work, States will be able to implement their programs very quickly. We support this concept because we have seen it work. We are currently in the process of operating, constructing or permitting these types of cells in four States: Utah, Oklahoma, North Dakota, and Minnesota. What we have found in each of these States is that our design and operation procedures for a Subtitle D industrial waste facility exceed the requirements of the State. Through the development and permitting of our facilities, State regulators have begun to recognize the environmental safeguards that can be achieved through a technically advanced facility, and as a result, their awareness of what is reasonable and practicable has been increased. In fact, we believe that where we were once in excess of the standard, the design and operation of our facilities has now become the standard expected by regulators. USPCI manages industrial waste in a number of ways. Sometimes this waste is disposed of in one of our hazardous waste cells, but most often it is managed in one of our industrial waste cells. The minimum design standard for our industrial waste cells is close to the design standard for a hazardous waste cell. At a minimum, our cells are built from the ground up, and in ascending order consist of: a 60 mil synthetic liner, a leachate collection system, an additional 60 mil synthetic liner, an additional leachate collection system, a non-woven geotextile filter fabric, and two feet of protective soil. When the cell has been filled, it is typically capped with two feet of compacted clay, a 60 mil synthetic liner, a High Density Polyethylene (HDPE) drainage net, a non-woven geotextile filter fabric, two feet of protective soil, and a layer of gravel. We have provided a handout of our cell design (Attachment A) so you can better visualize the composition. These cells are also subject to ground water monitoring and leachate collection and management. We also require and maintain a number of operating records associated with the management of industrial waste which include: documentation of the quantities and volumes of waste received, maintaining a manifest or bill of lading, an analysis of the waste to ensure it is industrial waste, and a dimensional grid of the cell to plot the location of the waste within the cell. As part of our testimony, we have provided the committee with a document which goes into greater detail about the operation and maintenance of our industrial waste cells (Attachment B) along with a document explaining our waste acceptance procedures (Attachment C).

Why do we exceed State requirements for the management of industrial waste? For two basic reasons. One, industrial waste, if managed improperly, can be just as harmful to the environment, our employees, and the public as hazardous waste; and two, our customers, both in industry and government, require this type of management to help protect them from future liability associated with mismanagement or insufficient management of these waste streams.

Mr. Chairman, we have prepared a list of some of the industrial wastes that we manage and have submitted it as part of our testimony (Attachment D). Some of these wastes, such as computer industry magnetic tapes which contain heavy metals, or certain mining wastes, can be extremely damaging to the environment when put into an unlined or substandard landfill, or co-disposed with municipal solid waste. However, with no existing Federal minimum technology requirements for industrial landfills, this can and does happen.

Mr. Chairman, our last reason for suggesting standards for industrial waste landfills concerns characteristic hazardous waste. It is not unusual for a waste that is classified as a characteristic hazardous waste under Subtitle C to be treated below the characteristic level and disposed of in a Subtitle D municipal solid waste landfill. A listed hazardous waste may not be disposed of in such a fashion. A listed waste must be treated and disposed of in a hazardous waste landfill. We believe that this treated characteristic waste should also be required to be disposed of in a hazardous waste landfill or at a minimum, a landfill that has a multiple liner system, leachate collection, and ground water monitoring.

As I stated earlier, we also build this type of cell because our customers want it. Industry today is very cognizant of the potential Superfund liability associated with its industrial by-products. By using a technically advanced facility such as ours, instead of the local landfill, generators reduce the likelihood of becoming a potentially responsible party in a Superfund cleanup or having to pay for a future remediation project. This type of liability protection is realized in a number of ways. First, generators have an interest in using a financially stable waste management company. Because of the joint and several liability associated with CERCLA, if a generator chooses a company that goes out of business, the generator may end up being the only "deep pocket" left to fund the remedial actions at a poorly managed facility. As a Union Pacific Company, USPCI offers the type of financial stability most gen-

erators are looking for. Second, and most important, because of our design standards, our compliance programs, and our environmental monitoring programs, the chances of a generator being exposed to future clean-up liabilities are significantly reduced.

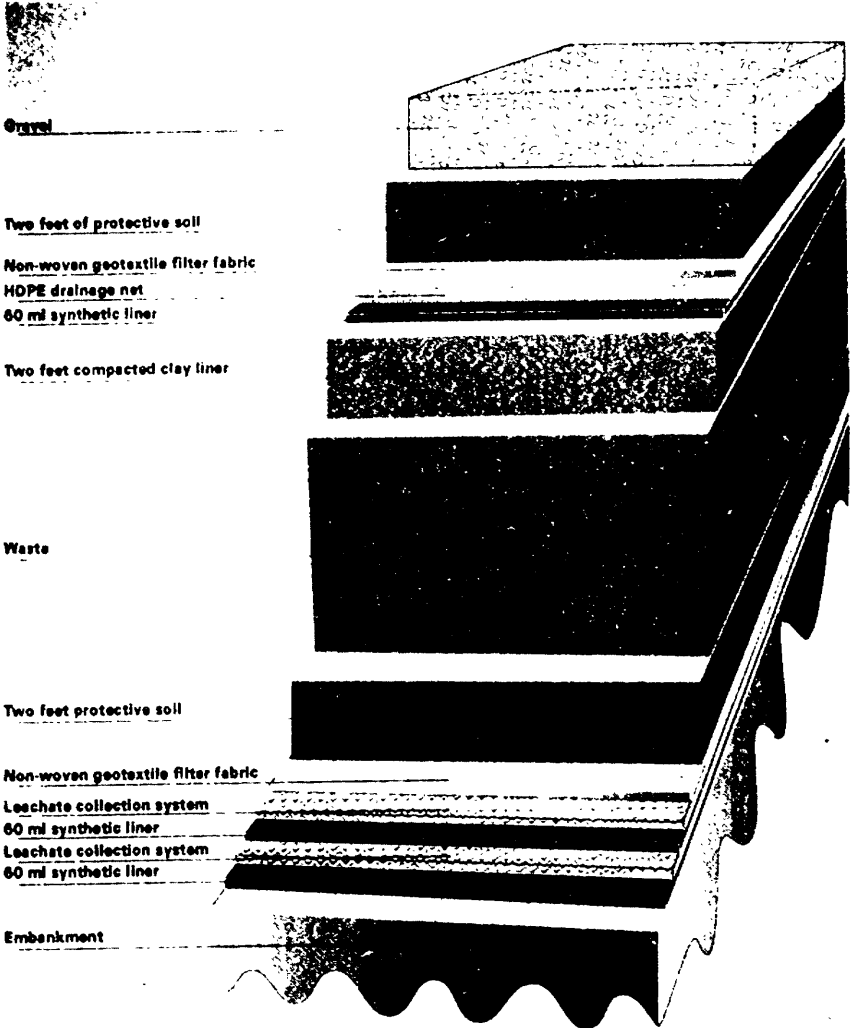
Mr. Chairman, non-hazardous waste produced by industry can be just as problematic as hazardous waste to both the generator and the environment. Many companies realize this, and we at USPCI will continue to use advanced technology to help ensure the protection of human health and the environment and to safeguard our customers against unwanted liability.

Mr. Chairman, this concludes my comments, and I will be happy to answer any questions.

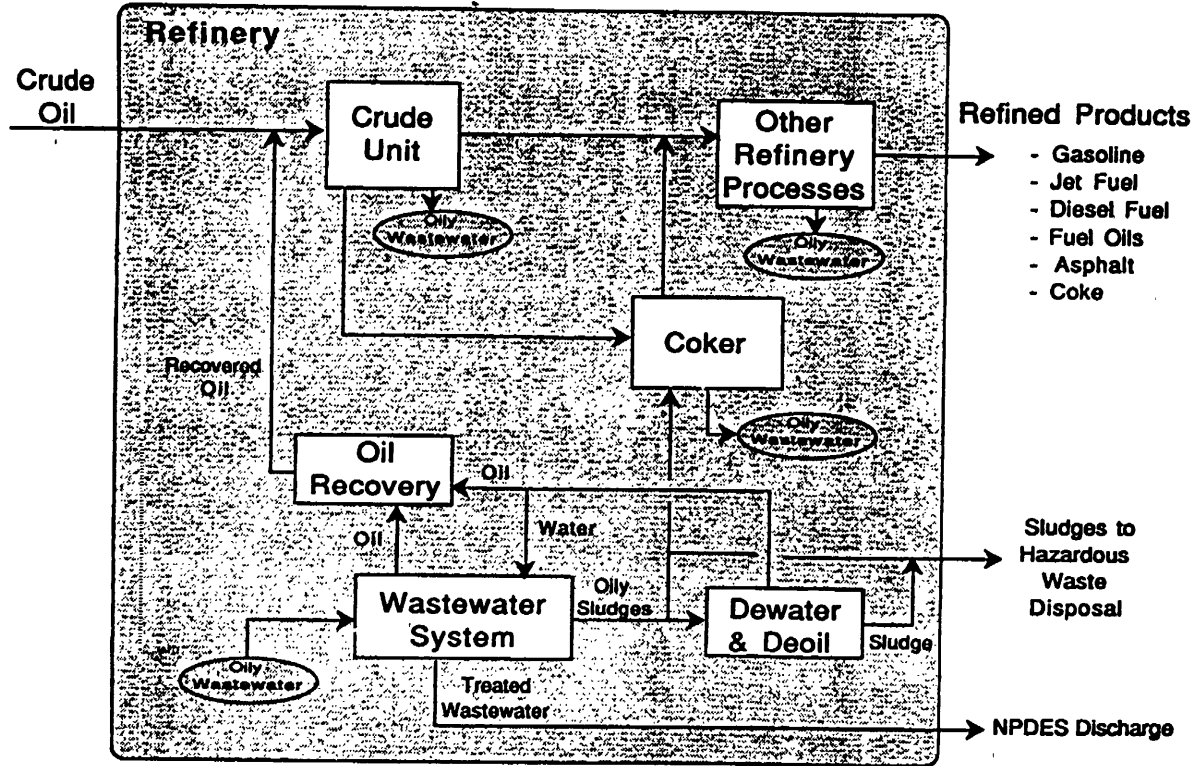
[An attachment to this statement has been retained in committee files.]



# Industrial Waste Cell



**Figure 1 - Simplified Flow Diagram for Petroleum Refinery**



## PREPARED STATEMENT OF TIMOTHY E. WIRTH

I want to thank the committee for the opportunity to address you today on your deliberations regarding the reauthorization of the Resource Conservation and Recovery Act (RCRA). As you consider the issues surrounding RCRA reauthorization and the pressing issues of hazardous waste recycling and incineration, I wish to draw your attention to a particular aspect of this hazardous waste disposal—the burning of hazardous wastes in cement kilns.

This country faces a major public policy challenge in crafting satisfactory ways to dispose of the enormous volumes of wastes which we continually generate. As landfill space shrinks and the environmental impacts of land disposal come to light, alternative options to land disposal must be developed. Recycling and waste minimization programs are the options we should be pushing in any legislation.

However, in the pressure to find solutions to shrinking landfill space, we will be confronted with many other alternatives, and the incineration of hazardous wastes is one of these. Although incineration may eventually become an option for some wastes, there is a growing concern that the public health, safety, and environmental issues related to hazardous waste incineration have not been adequately addressed. Consequently, many communities face the unsettling prospect of having a hazardous waste incinerator, and all of its attendant environmental hazards, located near homes and farms. That concern is heightened when we are talking about burning hazardous waste in facilities that weren't designed for that purpose, and whose operators are not hazardous waste disposal specialists.

Such is the case regarding the burning of hazardous wastes in cement kilns. In Colorado, there have been proposals by two companies to burn hazardous waste in three cement kilns. These companies want to use these old kilns to incinerate hazardous waste, and in some cases use the ash by-product in the cement produced. The nearby communities are rightfully concerned about the possible release of air toxins from the operation of these kilns, and they are also concerned about the storage and handling of the hazardous wastes at these facilities.

Consequently, I have introduced S. 1108 to address the public health, safety, and environmental issues surrounding the burning of hazardous wastes in cement kilns. This bill would direct the Environmental Protection Agency (EPA) to institute a two-year moratorium on the burning of hazardous wastes in cement kilns. During this moratorium, the EPA is directed to thoroughly examine the environmental and public health risks involved with the burning of hazardous wastes in cement kilns. It is vitally important that we examine this practice, as the possible toxic releases from the burning of hazardous wastes in these kilns can have devastating impacts to public health as well as to the agricultural products produced on nearby farms.

Mr. Chairman, the matter of burning hazardous waste in cement kilns has been an on-going controversy in this country. In 1980, the EPA developed regulations implementing Subpart O regulations under RCRA. These regulations were designed to regulate the incineration of hazardous wastes. However, because of a loophole, these regulations did not apply to the burning of hazardous wastes in boilers and industrial furnaces (BIFs). Since that time, the Combustion Section of the Office of Solid Waste (OSW) at the EPA has been developing regulations designed to manage and regulate the burning of hazardous wastes in BIF facilities including cement kilns.

These regulations, known as the "BIF" rules, became effective this August. However, many individuals, including concerned citizens and officials within the EPA, are raising serious questions about the scope and effectiveness of the new BIF rules. Given these serious concerns surrounding the BIF rules and the fact that the burning of hazardous wastes pose serious potential risks, I believe it is very important that we stop and reevaluate this activity. We owe it to the communities that exist near these cement plants to revisit the BIF rules and to satisfactorily evaluate the environmental safety of cement kiln hazardous waste incineration. That is what my bill is intended to do. Since introducing that bill, I have heard from many Coloradans who would like the moratorium to extend to at least five years, and who would like the NIH or some other agency independent of the Environmental Protection Agency to conduct the study of potential health hazards. I hope the committee will give these proposals serious consideration.

Since I introduced S. 1108, I have heard from communities across the country who are concerned about proposed or already operating incineration of hazardous waste in cement kilns. Communities in Illinois, West Virginia, Georgia, and Wyoming have all expressed support for S. 1108. This concern indicates that this issue is not limited to Colorado but is indeed national.

Mr. Chairman, my bill addresses only a small part of the hazardous waste situation. But it is a piece of the picture that highlights many of the most important

issues you face in reauthorizing RCRA the need to promote waste recycling and waste minimization over quick and dirty disposal options, the need to assure protection of public health, and the need to reassure the public and gain its confidence before allowing a disposal option to be put into widespread use.

I thank you for the opportunity to speak to you on this matter and I hope that you have productive debate on these challenging topics.

## PREPARED STATEMENT OF RICHARD C. FORTUNA

### I. INTRODUCTION

The Treatment Council is a national association of firms committed to the primary use of high-technology treatment and to the restricted use of land disposal in the management of hazardous waste. The Council is the largest organization representing commercial hazardous waste treatment and management firms and equipment manufacturers. The Council's member companies are engaged in the treatment and management of hazardous wastes through the use of reclamation; solidification; fixation; neutralization; chemical and biological destruction and treatment; thermal destruction through the use of incineration, cement kilns and other industrial furnaces, wet oxidation and pyrolysis; and the appropriate use of land disposal subject to necessary restrictions and pretreatment.

The Council was the only industry group to support the 1984 reforms to RCRA and has consistently participated in all phases of its implementation. Regarding recycling issues, the Council has joined local citizens, and State and Federal enforcement efforts in Louisiana and New Jersey to stop sham recycling and bring it under necessary environmental controls. The Council will also be releasing a site-by-site analysis of past and present recycling practices in the near future.

The Council commends the committee for its previous oversight efforts on the sham recycling question ("Sham Recycling," S. Hrg. 100-633, 1988) and for the introduction of two bills (S. 976 and S. 982), both of which would bring an end to the "legal dumping" that is occurring through RCRA's recycling loopholes. We would also urge the committee to hold additional hearings on other aspects of the RCRA hazardous waste program, specifically the scope of materials covered and deficiencies in EPA's implementation of the land disposal ban program.

### II. OVERVIEW

- Recycling is risky business; the practices of the past have left a legacy of Superfund sites across the country

- Thirteen (13) of the fifty (50) worst sites on Superfund's National Priority List (NPL) are recycling facilities (See Attachment A at end of testimony.)

- Overall, twenty percent (20 percent) or 239 of 1,211 sites of Superfund's NPL were caused by uncontrolled recycling practices, or uncontrolled disposal of recycling residues or "special" wastes (i.e., fly ash, smelting wastes, cement kiln dust) that still enjoy unregulated status. (See Attachment C.)

- Virtually every State has been affected by unregulated recycling practices with 44 States having at least one (1) Superfund NPL site caused by uncontrolled recycling practice. (See Attachment B.)

- Most recycling practices remain unregulated today and amount to little more than the legal dumping of hazardous wastes. (See Attachment D.)

- There are three (3) basic categories of recycling exemptions contained in RCRA: Jurisdictional, managerial, and residual.

- The jurisdictional exemptions exclude from all RCRA controls any firm which claims that they: (1) directly reuse a waste as a product, (2) directly reuse their waste as a feedstock, and (3) recycle their waste in a "closed loop" system. All three of these "all or none" jurisdictional exemptions are self-implementing, self-policing, require no prior Agency review, and have no health or environmental basis or restrictions to them. Thus, the most important decision in all of RCRA is left to the honor system.

- Even for those recycling practices that the Agency considers to be within the scope of RCRA, there are no management standards on the recycling practice itself. While the storage and transportation of waste to recycling facilities is largely regulated, the actual recycling practice is almost universally exempt from controls. Thus, we have better controls on the storage of the waste than on the very practices that have led to uncontrolled releases at Superfund sites.

- Aside from the residues of solvent recycling, no other residues or recycling operations are specifically listed as hazardous waste under RCRA and are only subject to



the much more tax standards for characteristic wastes. Moreover, the Bevill exclusion is continuing to mask and override RCRA controls for recycling residues produced by cement kilns, metal smelters, and general combustion furnaces producing fly ash. The Bevill "special waste" exclusion for mining wastes, fly ash, and cement kiln dust is continuing to override the basic protections of RCRA by designating these materials as special wastes, rather than hazardous wastes, despite clear Congressional directives to the contrary in the 1984 Amendments.

- Sham and unregulated recycling of legitimate practices are both sources of environmental damage.

- While many are familiar with infamous sham recycling practices throughout the country, unregulated used oil recycling, battery recycling, metal recycling, etc., are an even greater cause of environmental damage than sham recycling operations.

- Both S. 976, and S. 982 effectively address RCRA's recycling loopholes, although both bills could benefit from additional environmental safeguards to ensure that all recycling practices are nevertheless conducted in an environmentally sound manner.

- RCRA's jurisdictional lines must be based on objective environmental principles, not subjective, qualitative indicators.

- The basic jurisdictional exclusions for direct reuse as a product, direct reuse of waste as a feedstock, and closed loop recycling are sound in concept, but flawed in practices under existing regulation.

- These exclusions must be limited by environmental criteria to ensure that wastes are not placed on the open ground during the recycling operation, that other non-recycled toxic constituents are not tossed in "for the ride", and last, the Agency must conduct prior review to determine proper eligibility for the exemptions and their compliance with the environmental conditions upon which they are based.

- The Council believes that the committee should reject the establishment of a separate subtitle for recycling operations for such an approach only creates new definitional problems without solving the old ones.

- The most fundamental question to be dealt with in this legislation is what forms of recycling are subject to RCRA and which are excluded altogether because they are integrally related to the manufacturing process. Establishing a separate subtitle does not answer that question. Even with a separate subtitle, the question still remains as to which recycling practices are so inherently like manufacturing as to be excluded from Subtitle C, R, or whatever. To the extent that examination of or alternative permit processes and management standards are required, then such changes could be managed with within Subtitle C.

- The experience with the Bevill "special waste" provision should be lesson enough as to what a separate subtitle will engender: twelve years of delay, inaction, and ever increasingly creative attempts to redefine one's "hazardous" waste as an exempt "special" waste. (i.e., designating cement kiln dust from units burning hazardous waste as an exempt "special waste.")

- We urge the committee to also examine the full range of Subtitle C issues, including its scope of coverage and the increasing laxness with which EPA is implementing the land disposal ban program.

### III. RECYCLING IS RISKY BUSINESS; UNCONTROLLED PRACTICES OF THE PAST HAVE LEFT A LEGACY OF SUPERFUND SITES ACROSS THE COUNTRY

The Council is in the process of finalizing a detailed review of the sites on Superfund's NPL where recycling practices or residues have been the sole or principal cause of the contamination at that site. The Council will be finalizing this report in the very near future which will also include an analysis of existing recycling practices where enforcement actions have been taken and/or environmental damages are occurring. Significant findings from the Superfund NPL review are as follows:

- 13 of the nations 50 worst Superfund leaking hazardous wastes sites were due to uncontrolled recycling practices or indiscriminate disposal of recycling residues. See Attachment A. In addition to the 10 ranked sites that fall within the top 50, 2 additional Federal facility sites have been grouped in the top 50 sites [Cal West Metals (NM), Pearl Harbor Navy Complex (HI)], and Petrochem Recycling Corp. (UT) has recently been proposed for addition to the NPL (56 Fed. Reg. 35846) in the top 50 sites.

- Fully twenty percent (20 percent), or (239 of 1,211) of the entire NPL list is composed of sites caused by uncontrolled recycling practices or indiscriminate disposal of recycling residues.

- Virtually every State has been affected by uncontrolled recycling practices. Forty-four States contained at least one of the 239 recycling sites on the Superfund NPL. See Attachment B.

● The recycling practices that have caused or contributed to 239 of the nation's Superfund sites span the gamut from oil, solvent, battery, metal, PCBs and barrel recycling, and over-accumulation, reuse of wastes as roadfill, feedstocks and other products as well as the reckless disposal of recycling residues and Bevill "special" wastes from recycling units.

● Used oil recycling is far and away the most prevalent cause of Superfund sites accounting for 63 of the 239 recycling NPL sites. This figure is particularly significant in light of the fact that there are only 200 active used oil recycling facilities in the country today (i.e., facilities that blend used oil for a fuel or re-refine it into tube oil). See Attachment C.

#### IV. TODAY MANY FORMS OF RECYCLING REMAIN LITTLE MORE THAN "LEGAL DUMPING"

##### A. Most Recycling Causes Of Superfund Sites Remain Uncontrolled Today

###### 1. Regulatory Status Of Superfund Recycling Site Activities

As you can see from Attachment D the historical causes of recycling Superfund sites remain largely unregulated even to this day. While storage and transportation of waste material for recycling is controlled in most instances, the actual recycling practice itself is not. Thus, some of the leading causes of Superfund site contamination at used oil, solvent recycling, battery, scrap metal, and drum recycling facilities remain either completely unregulated or largely exempt from controls. See Attachment D.

###### 2. EPA Action At Recycling Sites Occurs Only After The Damage Is Done And Is Devoid Of Preventive Requirements

In most cases, unless State law has superseded, there are few if any preventive controls to ensure that wastes are properly contained, and financial responsibility requirements are met, or that the facility is properly closed and does not become a ward of the Superfund program. The following are but a few examples of ongoing releases from recycling operations where the Agency has intervened only after the damage has been done or where recycling threats are ignored until they become catastrophic:

● *Long Beach, California*—A 95 foot diameter tank holding 1.5 million gallons of an oil/water mixture at the abandoned Wright Oil Terminal is visibly leaking wastes onto the ground and has prompted the State of California to issue an imminent hazard order to commence immediate cleanup. The oily waste material is being released onto the ground as we speak, and the Agency has determined that the contents of the tank is not a waste because it has "the potential to be recycled," and has taken no steps to prevent further contamination or catastrophic release. This determination has significantly delayed initiation of cleanup of this site and the denial of Federal funds for this effort since the material involved is not a "waste."

● *Sioux Falls, South Dakota*—The State of South Dakota is currently engaged in a cleanup effort of the Tri-State Mint Precious Metals Recycling site. The indiscriminate disposal of acid and metal-containing waste from this site has resulted in the closure of 2 drinking water wells for the City of Sioux Falls. The enforcement case was compromised by a lengthy delay in the EPA making a determination as to whether the waste material involved was either a listed hazardous waste or an exempt recyclable material. There are no preventive standards for precious metals reclaimers because according to EPA, such wastes are "inherently valuable" thereby ensuring proper management.

● *Morgan City, Louisiana*—The Marine Shale Processors (MSP) facility burns more hazardous waste than any other site in the country, but for 7 years has claimed to be exempt from RCRA on the basis that it is a manufacturer of road-based aggregate, not a hazardous waste incinerator. By merely claiming that their incineration ash is a marketable "product", the firm has been able to dodge State and Federal enforcement actions for 7 years. The EPA recently ordered the evacuation of a family living in Stevensonville, Louisiana, whose house was built on Marine Shale's unregulated ash, due to the high levels of lead concentrations in the house and the elevated blood lead levels of the children living therein. Despite the overt nature of this sham, this facility remains fully operational today.

##### B. Three Categories Of Loopholes: Jurisdictional, Managerial, Residual

###### 1. Introduction

A brief discussion is needed in order to distinguish between the range of RCRA recycling loopholes and exemptions that:

● Exempt the material and recycling practice from RCRA jurisdiction altogether;

- Assert jurisdiction, but have not imposed any managerial standards; and
- Exempt treatment residue from further RCRA jurisdiction.

Thus, another way to look at the exclusions under RCRA are those that would either exempt the entire process and facility, those that only exempt the recycling unit, and those that exempt the residues from recycling operations. Perhaps the best way to summarize RCRA's many loopholes is to quote from an article on loopholes in RCRA's solid waste definition that was featured in a recent technical journal. It stated:

Although the basic rules for defining "hazardous wastes" are relatively simple, there are a myriad of exceptions to those rules, making Part 261 one of the most complex sections of the hazardous waste regulations. Because of this complexity and basic desire of hazardous waste generators to legally avoid regulation whenever possible, we felt that it would be helpful to our readers to explore the "loopholes" in Part 261. Some are very subtle and only applicable to selected cases; other are much broader in scope.<sup>1</sup>

## 2. Jurisdictional Exemptions—RCRA's Most Important Regulatory Decision Operates On The Honor System

There are several exemptions which allow a firm to completely exempt themselves from all RCRA controls. The practices/materials so exempted are thus neither hazardous waste or solid (non-hazardous) wastes. These include:

### a) The Jurisdictional Exemptions

- **Feedstock Exemption:** Materials used as an ingredient or substitute feedstock,
- **Product Exemption:** Materials used as an effective substitute for commercial products, and

● **Closed Loop Exemption:** Materials re-used in a closed loop manner are deemed to be exempt from all of RCRA jurisdiction as they do not constitute solid waste management activities. The key to these three exclusions is that the materials must be directly reused without prior storage or treatment. However, these exemptions are totally self-implementing, requiring no prior approval or review by EPA, and are only controlled through individual State assertions of broader jurisdiction.

● **Facility Specific Jurisdictional Exemption:** Certain materials that are over accumulated prior to recycling, materials that are reclaimed and reused in the original production process, and materials that are partially reclaimed, may nonetheless qualify for an exclusion from all of RCRA jurisdiction if the Regional Administrator or authorized State approves such exclusions on a case-by-case basis. Thus, the facility-specific exclusions are similar to feedstock, product and closed loop exclusions except that such materials may be stored, treated, or reclaimed prior to reuse and still be considered exempt from RCRA solid waste jurisdiction. While the exclusions require prior Regional Administrator approval, there is a paucity of guidance on the criteria for these exclusions and no public hearing is required. These exclusions do not even appear in the definitional regulations of RCRA, but rather in the rulemaking procedure section of the regulations. (See 40 CFR 260.30, 50 Fed. REG. 661-62, January 4, 1985).

● **Indigenous Wastes:** The Agency has asserted that hazardous waste delivered to a manufacturing facility (i.e., metals reclaimer) for a "production purpose" are deemed to be indigenous to the production process and thereby exempt from all of RCRA jurisdiction. The Agency attempted to assert this principle claiming that KO61 electric arc furnace dust from steel production is exempt from RCRA jurisdiction provided it was merely delivered to a metal smelting facility for recovery of zinc, irrespective of the environmental fate of cadmium, chromium and lead, the very toxic metals for which the waste was originally listed. The Court of Appeals has overturned the indigenous principle as an invalid basis for failing to assert RCRA jurisdiction over such reclamation facilities; however, the Agency has since promulgated other versions of this exemption in the boiler and industrial furnace rule.

### b) Jurisdictional Exemptions Are Self-Implementing, Self-Policing, And Have No Environmental Basis Or Preventive Safeguards

Of those exclusions that pertain to recycling practices alone, the most troublesome are the self-implementing exemptions for waste used as products, waste used as substitute feedstocks, and to a lesser extent waste used in a "closed loop"

<sup>1</sup> *The Hazardous Waste Consultant*, Special Feature: "Loopholes In The Identification And Listing Of Hazardous Wastes", Vol. 7, Issue 3, McCoy & Associates, May/June 1989, page 4-1. 45 Fed. REG. 33119 (May 19, 1980). 50 Fed. REG. 614 (January 5, 1985).

manner. The most significant determination that a firm must ever make—is my secondary material a waste, and subject to RCRA—is a self-certifying, self-implementing honor system exemption which requires no prior review or approval by the Agency. Significantly, these three process-specific exemptions determine which materials are a solid waste and which are not. The level of judgment required is such that the regulations cannot serve as free-standing exemptions without specific environmental safeguards, and without some form of prior EPA determination and supervision.

These conflicting assertions of broad jurisdiction on the one hand are open-ended, self-implementing exemptions and on the other hand have combined to make the solid waste definition into something a little better than the legendary definition of "pornography"; we will know it when we see it.<sup>2</sup> The problem in tracking and reconciling apparent conflicts between assertions of jurisdiction and the exemptions is compounded by the fact that the regulatory language on these exemptions is often limited to a mere phrase, and the Agency's guidance on its application and interpretation frequently amounts to little more than a patchwork of disjointed regulatory preambles, guidance letters, and interpretative memos. The other principal problem with the current solid waste definition is that it attempts to be all things to all people. Instead of being a straightforward jurisdictional rule which simply distinguishes between waste management activities and production practices, particularly where reuse is involved, the rule attempts to accomplish all the regulatory tailoring that should otherwise be reserved for the standard setting, permitting and delisting programs.

### *3. Managerial Exemptions—The Recycling Activity Itself Is Universally Exempt From Controls*

The following activities/materials are considered within RCRA's jurisdiction as "waste management" activities and are subject to solid waste requirement, but not Subtitle C preventive controls.

- *Burning for Energy and Materials Recovery:* Under court order to comply with the 1984 RCRA Amendments on February 21, 1991, EPA issued substantive regulatory standards for boilers, industrial furnaces and cement kilns burning wastes for energy recovery. The Agency has exempted however, all forms of burning for materials recovery, all combustion residues from cement kiln, boiler and smelter units (as Bevill special waste), and coke ovens burning certain hazardous waste. Moreover, the Agency has delayed the requirement for such facilities to perform a trial burn, or proof of performance, for many years.

- *Land Applied "Products" Evade Derived-From Rule:* A firm placing its waste on the ground as a "product" is presently subject to less controls than if the same waste were placed into a hazardous waste landfill. A firm which claims that its wastes are being placed on the ground as a "product" (i.e., soil conditioner, anti-skid material, road-base) are currently required to only meet BDAT standards for the land-applied product irrespective of what ecosystem may be affected. However, if the same waste was not placed on the ground as a "product", it would have to be treated to BDAT and then placed only into those units land disposal that meet minimum technology standards.

- *General Recycling Facility Exclusion:* With the exception of facilities burning hazardous wastes in non-incinerator units which will be regulated in the near future, the Agency has explicitly exempted the recycling process itself from any substantive regulations. [See 261.6(c)(1)]. Thus while the storage and manifesting of wastes to recycling facilities in general is regulated, the actually recycling facility itself is exempt. In addition, unless specifically listed, the residues from recycling facilities are only subject to regulation if they flunk the characteristic. Thus, no current recycling facility is required to demonstrate compliance with standards for tanks used in the treatment process, air emission limitations, secondary containment, financial responsibility, corrective action or other substantive controls to prevent environmental releases during the reclamation process.

- *Empty Drum Exclusion:* Any hazardous waste remaining in an "empty container" is explicitly exempt from RCRA Subtitle C control, even though an "empty" container may contain up to one inch of residue in the bottom or up to 3 percent by weight of the total capacity of the container or no more than .3 percent by weight of the total capacity of large containers (i.e., those exceeding 110 gallons in size). Thus, RCRA "empty" drums may still contain appreciable quantities of hazardous waste, particularly when accumulated in quantity and managed irresponsibly. Nonetheless,

<sup>2</sup> The *Environmental Forum*, "When Is A Waste Not A Waste: EPA's New Solid Waste Definition?" Garelick, Barry, September 1985, Page 26.

only Subtitle D controls currently apply to such operations unless otherwise regulated by the State.

4. *Residuals Exemption—Many Recycling Residuals Escape Control Via Bevill "Special Waste" Exemption*

● *Bevill Override of Residue Management Requirements:* In the recently promulgated "Boiler and Industrial Furnace Rule" the Agency perpetuated the applicability of the Bevill exclusion to the residue from burning of hazardous waste in industrial boilers, furnaces, and cement kilns, based on the rationale that combustion residues from these units are really a part of the wastestreams that currently enjoy Bevill special waste status (i.e., wastes from the burning of fossil fuels, processing ores, and cement kiln dust). See further discussion below). 56 FED. REG. 7134. Thus the Agency has effectively trumped the land ban BDAT treatment requirements and the minimum technology unit disposal requirement. Such residues may be disposed of indiscriminately as non-hazardous waste, despite the fact that there are 25 sites on the Superfund NPL caused by fly ash, smelting and cement kiln waste.

C. *Sham And Legitimate Recycling Are Both Responsible For Environmental Damage*

While many are familiar with the overt and absurd "recycling" facilities that claim to be exempt from RCRA because they produce "products" that nobody buys (i.e., Marine Shale "aggregate") and the numerous other attempts to produce clearly bogus and/or land-applied products (i.e., road-base, fill material, anti-skid material), these types of "sham" facilities, or treatment facilities in disguise, are far from the sole problem with recycling facilities.

Many recycling facilities produce legitimate products such as batteries, solvents, acids, lubricating oils, fuels, precious metals, and metal products, but are nevertheless examples of Superfund National Priority List (NPL) sites. The need to control recycling practices goes beyond mere sham facilities and extends to the residues and management practices of all recycling operations, including those produced by closed loop processes. Whether or not a facility produces a bogus non-product is not the sole criterion by which a facility should be judged or regulated. "Sham" recycling facilities, those facilities which fail to qualify for any of the existing exemptions in the regulations but which claim to be exempt recyclers nonetheless,<sup>3</sup> remain as some of the egregious examples of environmental degradation, but far from the only ones. For example, Film Recovery Inc. in Chicago, IL, was a silver recycling and reclamation facility that certainly did recover silver from film chips, but in the process killed one of its employees due to cyanide exposure and indiscriminately disposed of over 15 tons of cyanide-laced chip residues at various locations around the State. The quality of the product and the "value" of its reclamation is completely unrelated to the human health or environmental damage that can occur from unregulated practices.

D. *Legal Basis For RCRA's Jurisdictional Confusion*

1. *What Is "Discarding"?*

RCRA's definitional dilemma regarding waste recycle and reuse practices ironically can be distilled down to one word: the use of the term "discarded" in the RCRA statutory definition of "solid waste".<sup>4</sup> Is reuse a form of discarding? Is all recycling discarding or only some of it? Which forms of "discarding" or "recycling" are like waste management and which are like manufacturing? The American Mining Congress and the American Petroleum Institute have both asserted that materials are "discarded" only when wastes are placed into land disposal units such as a landfill.<sup>5</sup> Other members of the mining industry have asserted that the Agency does not even

<sup>3</sup> 53 FED. REG. 519 (January 8, 1988).

<sup>4</sup> RCRA Section 1004(27). "Solid waste" means "any garbage, refuse, sludge from a waste treatment plant, air pollution control facility and other discarded material, including solid, liquid, semi-solid or contained gaseous materials resulting from industrial, commercial, mining, and agricultural operations and from community activities but does not include . . . [exemptions listed]."

<sup>5</sup> *American Mining Congress v. EPA*, 824 F.2d 1177 (D.C. Cir. 1987), referred to in this paper as "AMC I". Until subsequent court cases have clarified the true and narrow scope of the D.C. Circuit's original ruling in "AMC I", this case has caused considerable confusion regarding the Agency's recycling jurisdiction and caused the Agency to take an unnecessarily and unlawfully narrow view of its own jurisdiction. See discussion of subsequent cases throughout Section V of this paper.

have jurisdiction over smelter wastes placed in lagoons provided there is merely some intent to recycle that waste at some point in the future.<sup>6</sup>

EPA on the other hand has said that many recycling practices are the functional equivalent of "discarding" (i.e., land disposal and/or waste treatment) in several respects: placing waste on the ground in a manner constituting disposal (i.e., fill materials) is the functional equivalent of landfilling. Similarly, excessively long storage of materials is another form of discarding or abandonment. Regeneration or reclamation of spent waste materials is the functional equivalent of waste treatment, as the burning of waste for energy and materials recovery is the functional equivalent of incineration.

Due to the long history of regulatory and judicial interpretation of these terms, (discussed below), we believe that amending RCRA's solid waste definition to explicitly include recycling practices other than those that are directly connected to the manufacturing process is the most prudent course to follow. The subsequent discussion of recent Court of Appeals interpretation and the pending *Shell Oil v. EPA* case reinforce the strategy of following the Court's lead by clarifying terms with which it has become familiar.

## 2. Recent Judicial Rulings on RCRA's Recycling Controls

The two court cases provide recent appellate court interpretation of RCRA's current jurisdiction over waste recycling practices and reveal how an independent body would structure RCRA's jurisdictional lines in an objective manner consistent with its broader environmental goals in mind. The cases also narrow EPA's previously broad interpretation of AMC I.

In *API v. EPA* the court dismissed EPA's proposed indigenous principle, the product equivalency test, and the value test on the basis that none of these approaches were justified by the statute nor do they comport with RCRA's larger goals to regulate waste materials that have "become part of the waste disposal problem".<sup>7</sup> The court opinion goes on to note that EPA based its conclusion that it lost jurisdiction over waste once delivered to a production facility (i.e., the indigenous principle) based on a faulty reading of AMC I.<sup>8</sup> The court stated that the issue in AMC I was whether the EPA could under RCRA treat as "solid waste" materials that are recycled and reused in an ongoing manufacturing or industrial process.<sup>9</sup> In AMC I the court held that the materials at issue (i.e., in-process refining oils and metals involved in serial extraction) had not yet become part of the waste disposal problem because they were destined for beneficial reuse or recycling in a continuous process by the generating industry itself. The court in that opinion made over 14 references to direct reinsertion within the manufacturing process. Thus the court is identifying a firm's ability to reinsert wastes into a continuous manufacturing process within the generating industry itself as a major criterion for objectively distinguishing between manufacturing operations and waste management processes.<sup>10</sup> Thus to the court the key concept of distinguishing RCRA jurisdiction in either AMC I or *API v. EPA* was not merely whether the waste is delivered to a production facility but whether it is "part of an ongoing manufacturing or industrial process" within the generating industry.

The second principle for establishing RCRA hazardous waste jurisdiction over recycling practices comes from another case decided this past summer involving the Agency's relisting of six smelter wastes.<sup>11</sup> In this second AMC challenge to RCRA jurisdiction, AMC II, petitioners claimed that the Agency did not have jurisdiction to regulate "discarded" waste sludges from wastewater treatment even when stored in surface impoundments simply because they may be reclaimed at some future point. In this case the court admonished the petitioners for taking too broad a reading of the original AMC I case, again highlighting the fact that only materials that are "destined for immediate reuse in another phase of the industry's ongoing production process and that have not yet become part of the waste disposal problem" are intended to be outside of RCRA's jurisdiction.<sup>12</sup> The court goes on to note that:

<sup>6</sup> *American Mining Congress v. EPA*, #88-1835, decided July 10, 1990 (D.C. Cir.) slip op. at 12. For purposes of this memo the case is referenced as "AMC II" and refers to the mining industry's challenge to EPA's relisting of six smelter wastes as hazardous under RCRA. 53 Fed. Reg. 35413.

<sup>7</sup> *American Petroleum Institute v. EPA*, No. 88-1606, decided June 26, 1990 (D.C. Cir.) slip op. at 28-29, footnotes 15-16.

<sup>8</sup> *American Mining Congress v. EPA*, 824 F.2d 1177 (D.C. Cir. 1987) ("AMC I").

<sup>9</sup> *Id.* at 1186.

<sup>10</sup> AMC I at 1166, *API v. EPA*, slip op. at 27-28.

<sup>11</sup> *American Mining Congress v. EPA*, No. 88-1837, decided July 10, 1990 (D.C. Cir.) ("AMC II"). 53 Fed. Reg. 35413.

<sup>12</sup> *Id.* at 13.

Nothing in AMC I prevents the Agency for treating as "discarded" the wastes at issue in this case (wastes from: primary copper, lead, and zinc smelting; primary aluminum reduction; wastes from ferrochromium silicon and ferrochromium production), which are managed in the land disposal units that are part of the wastewater treatment system, which have therefore become part of the waste disposal problem and which are not part of an ongoing industrial process.<sup>13</sup>

The court added that their previous decision in *API v. EPA* explicitly rejected the very claim that potential reuse of a material prevents the Agency from classifying the material as "discarded".<sup>14</sup>

Thus after ten years of trial and error, explicit and implicit regulatory proposals, and related litigation, what emerges as the most objectively verifiable basis for defining RCRA jurisdiction that is also consistent with the underlying environmental goals of the statute is the requirement that waste be directly reinserted into the manufacturing process and not be placed on the ground in order to be considered a manufacturing activity and thus be outside the scope of RCRA jurisdiction. This two-part test is both objectively and physically verifiable, does not rely on intent or subjective judgments of value or comparability, and is consistent with the environmental goal of insuring that waste constituents are not indiscriminately placed on the ground or allowed to be released into the environment. The basic threshold test for RCRA jurisdiction must be just this basic. While there is no silver bullet to developing jurisdictional criteria, and while it certainly will be debated how closed is closed and how big the loop may be, this at least establishes an objective verifiable and environmentally consistent framework for evaluating individual situations and distinguishing between waste and non-waste activities. This test is also consistent with source reduction, waste minimization goals, and would encourage firms to hire engineers to reconfigure facilities, rather than lawyers to argue over jurisdiction. If a material is put back in the process and is not put on the ground then it is not a waste. Ironically, EPA's current solid waste definition contains an exclusion for close-loop recycling even though the Agency's interpretation regarding its applicability is scattered over four regulatory preambles.<sup>15</sup>

In *EPA v. Lee Brass*, EPA maintained that placement of brass and heavy metal waste that failed EPA toxicity characteristic on the ground prior to reuse was disposal, and did not constitute closed loop recycling due to the element of land placement. The administrative law judge in this case fully concurred with the Agency's determination that such activities did not constitute closed loop reuse.<sup>16</sup> In a similar case involving close loop recycling, the Department of Energy claimed that the burning of mixed plutonium and hazardous waste in a on-site incinerator constituted closed loop recycling, not disposal. The District Court ruled that the wastes were not being reinserted into a manufacturing process, but rather were being burned for destruction.<sup>17</sup> The burning of mixed wastes by incineration that allows "ultimate" recovery of plutonium is not consistent with the D.C. Circuit opinions that limit closed loop to direct reinsertion into "an ongoing manufacturing process." Simply because DOE eventually planned to recover plutonium from the incineration ash did not constitute closed loop reuse.

#### *D. History Of RCRA's Recycling Provisions, Litigation*

1980 Final Rule.....	"Sometimes discarded" standard; also exemptions for "beneficial" and "legitimate" recycling practices.
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<sup>13</sup> *Id.* at 14.

<sup>14</sup> *API v. EPA* at 27-29.

<sup>15</sup> Fed. Reg. 25441-43 (July 14, 1986), final rule, standards for hazardous waste storage and treatment tanks; 50 Fed. Reg. 614 (January 4, 1985), final rule, solid waste definition revisions; 55 Fed. Reg. 25467 (June 21, 1990), final rule, Organic air remissions standards to process vents and equipment leaks; 53 Fed. Reg. 519 (January 8, 1988), proposed rule amendment to solid waste definition in light of AMC I case, final rule pending.

<sup>16</sup> *Lee Brass*, Administrative Law Judge Decision, Order No. A-1636, *Environmental Law Report*, Vol. 20, 30000:22

<sup>17</sup> *Sierra Club v. U.S. Department of Energy and Rockwell International Corporation*, U.S. District Court for the District of Colorado, Civil Action No. 89-B-18 1, decided April 12, 1990.

—Continued

1984 Amendments .....	Direct EPA to regulate burning of hazardous waste for energy and materials recovery under incinerator standards; other waste reuses specifically regulated (i.e., road oiling). Statutory definition of "solid waste" left untouched.
1985 Re-definition .....	Restructures scope of jurisdiction according to form and function.
1987 AMC v. EPA (I) .....	Plaintiffs claim only "discarded" material subject to RCRA; court agrees to extent material is directly reinserted into process.
1988 Proposed Rule .....	EPA proposes to implement AMC I mandate. Preamble includes sham recycling criteria. No final action taken in light of subsequent rulings in API v. AMC II cases.
1990 API v. EPA .....	NRDC, HWTC overturn EPA's "indigenous principle." Court held that a hazardous waste delivered to a reclamation facility does not cease to be a "solid" waste simply because an element of production is involved. Limits AMC I scope.
1990 AMC v. EPA (II) .....	Court held that materials managed in land-based facilities prior to reclamation have become "part of the waste management problem" even if destined for recycling. Further limits AMC I.
1991 Shell Oil v. EPA .....	Further challenge to recycling jurisdiction still pending. Petitioners claim that the word "recycling" is absent from the statutory definition of "treatment," therefore EPA lacks jurisdiction.

## V. ANALYSIS OF SENATE LEGISLATION: S. 976, S. 982

The Treatment Council commends both Chairman Baucus and Senator Chafee for their introduction and sponsorship of S. 976, S. 982, respectively. Both bills unequivocally put to rest any question regarding EPA's jurisdiction over the recycling of solid/hazardous waste and/or secondary materials. First and foremost, any legislation must address the threshold question of EPA's jurisdiction over recycling generally, as it continues to be an ongoing source of litigation and must be put to rest if a meaningful and comprehensive preventive system is to be established.

While both bills address the jurisdictional question in a comprehensive and unequivocal fashion, the committee has requested comment on the mechanisms used by the various bills to achieve this end. It is a difficult choice to make in this regard because both bills take such an affirmative stand on the need to regulate recycling. However, if past is prologue, exemption seekers will seize on any nuance to petition for review and paralyze the Agency's exercise of jurisdiction over recycling practices. As we speak, the Court of Appeals for the District of Columbia is deciding the *Shell Oil v. EPA* case.<sup>18</sup> In this case, a wide variety of chemical, oil and mining companies have challenged EPA's jurisdiction over any form of recycling simply because the word "recycling" is not in statutory definition of "treatment". This challenge occurs despite the fact that Congress established several explicit provisions in the 1984 Amendments directing EPA to regulate specific recycling practices that involve the reuse of secondary materials. The Council is concerned that if the resolution to the jurisdictional question employs entirely new terms and relationships to define recyclable materials and recycling practices, that it will inadvertently perpetuate the very litigation it seeks to prevent, despite all best efforts and intentions to the contrary. After 10 years of litigation, interpretation, regulation and re-regulation, we believe that amending and addressing the terms and concepts with which the courts have become familiar, namely the solid waste definition, provides the most direct, certain path to clarifying RCRA's jurisdictional scope and preempting future frivolous litigation. See additional discussion of recent Court opinions in Section IV.D. above.

Regarding specific provisions of S. 976, we believe that the "anti-backsliding" language of § 3004(y)(2), the enforceable deadline provisions of § 3004(y)(1) and the notification certification provisions of § 3004(y)(4) for facilities that claim to be exempt from RCRA by virtue of either the closed loop or the direct use exemptions are essential components to ensure a successful program.

<sup>18</sup> *Shell oil v. EPA*, 80-1532 (D.C. Cir. oral argument, Dec. 1990).



The Council believes that there is too broad a reliance on permit-by-rule authorities as well. In addition, both bills require that the exclusions to RCRA jurisdiction for direct reuse as "product", "feedstock" and "closed loop" recycling must meet environmental safeguards and criteria to ensure that closed loop recycling does not occur in open tanks or through waste piles on the ground, and that direct reuse exclusion does not indirectly allow unreclaimed toxic constituents to be along for the ride in the reuse process.

## VI. ANALYSIS OF OTHER APPROACHES TO THE RECYCLING PROBLEM

The purpose of this section is to examine several options that have emerged in the technical literature as well as from Agency rulemakings and recent court precedents to draw RCRA's jurisdictional lines in a manner that optimizes protection and waste minimization. These options evaluate the threshold question of how one distinguishes between those waste reuse practices that constitute hazardous waste management and those which should be exempt from RCRA by virtue of constituting manufacturing operations. The following discussion, unless otherwise specified, does not address what substantive standards should be applied to recycling facilities, how those regulations might differ from waste treatment or disposal facilities, or whether such facilities need the same level of regulation. While the questions are often confused, categorizing waste reuse practices which qualify as manufacturing and production operations (i.e., closed loop processes) and those which should be subject to waste management controls is a separate question from determining what specific regulatory controls should be imposed (i.e., secondary containment, financial responsibility, etc.). This discussion focuses on the production versus waste management threshold and seeks to identify criteria to establish a bright-line, intuitive distinction between regulated waste management practices and exempt production activities.

### A. Failed Attempts To Clarify RCRA's Jurisdiction Test

#### 1. "Exempt Recycling In Order To Encourage It" Argument

This is a common claim made by various recycling factions regarding the deleterious effect of regulations on recycling practices. The claim is that any regulation which affects any form of recycling is per se undesirable because it will serve to "discourage" the recycling practice. As we have seen from the Superfund and RCRA enforcement experience, there are indeed some forms of recycling that need to be discouraged, not encouraged. Recycling is not per se beneficial.<sup>19</sup>

In fact, what we have seen is that without regulation there is no way of controlling what form of recycling is encouraged: the good, the bad or the ugly. In 1980 many solvent recyclers commented to the Agency that they should not be regulated because it would increase their cost and discourage their operations. The same argument has been made by waste oil recyclers, metal reclaimers, burners of waste for "energy recovery", and virtually every other recycling group. The fact is that solvent reclamation has flourished among those firms that have adapted to manifesting, storage, and residue management controls. Despite hazardous waste regulations, California's used oil recycling is increasing annually. While credible arguments can be made regarding the need to provide certain accommodations in terms of standard setting, permitting, and delisting for recycling operations given that these facilities produce both residues and truly reusable products, these facts alone do not in any way justify carte blanche exemptions from controls simply because a "product" is produced. Congress clearly stated in the 1984 RCRA Amendments that production of a product does not trump the need for protection for used oil recycling operations. In striking the balance between encouraging recycling and protecting the environment the question should focus on the specificity of controls, not on the threshold of their imposition.<sup>20</sup>

<sup>19</sup> 50 FED. REG. 658 (January 4, 1985), Appendix A, B. A summary of 83 EPA documented environmental damage cases from the full spectrum of waste recycling facilities.

<sup>20</sup> Conference Committee Report on H.R. 2867, House Report 98-1133, Section 242, Recovery and Recycling of Used Oil. The conference report discusses the changes imparted by HSWA in Section 3014 of RCRA by stating, "as now written [prior to HSWA's enactment] Section 3014 States that the regulations governing used oil 'shall . . . not discourage the recovery or recycling of used oil.' It was never Congress' intent that production of human health and the environment be subordinated to the continuation of used oil recycling activities. The Agency can and should prohibit or (footnote continued) control used oil recycling practices that have been determined to pose a potential hazard to human health and the environment even though such regulations would impede recycling. The intent of the provision is to make clear that Congress's

## 2. A Separate Subtitle For Waste Recycling

To establish a separate subtitle for recycling effectively begs the question rather than answer it. Simply establishing a separate subtitle does not define what falls into it nor how to distinguish manufacturing from waste management when recycling and waste reuse is involved.

Moreover, assuming for purposes of argument that you could identify every recycling activity that has fallen under the jurisdiction of the subtitle, there would be no objective way of knowing when Subtitle C or Subtitle "R" applied because it would be based on an intended form of management, not on an objective or verifiable criterion such as the process of generation or constituent concentration (i.e., listing or characteristic). There is no objective way to verify whether someone who "intends" to recycle actually does. To allow an "intent" test to distinguish between those secondary materials that are subject to preventive Subtitle C controls and those that are not would put all forms of waste recycling on an unmanageable and unenforceable honors system. How do you distinguish between and/or enforce against a company who claims that its waste is being taken for recycling, not treatment or disposal? How does one challenge a claim or distinguish between used oils subject to Subtitle "R" and/or oily listed wastes subject to Subtitle C? Just as the Bevill special waste category has proven difficult to control despite the relative handful of waste streams identified therein, how would one ever control a system where one of dozens of different reuse claims could serve to circumvent Subtitle C jurisdiction and controls.

The experience with Bevill special wastes is the closest analogue to what we could expect for this separate subtitle. The Bevill special waste category is a "temporary" but defacto separate subtitle for a very discrete and specifically defined group of substances awaiting Subtitle C determinations. But look what has happened. In over ten years the scope of that subtitle has grown far beyond the statutory special waste descriptions: wastes from the burning of fossil fuels; waste from the processing, beneficiation, and extraction of ores and minerals; and cement kiln dusts. At various points the Agency has interpreted wastes from the processing of ores and minerals to include virtually all metal-bearing wastes whether they have been produced at the mine site or at manufacturing facilities. Cement kiln dust now encompasses not only the dust from cement production but any and all combustion residuals from the burning of hazardous wastes generated independent of the Bevill process. Thus, even where a "subtitle" was dedicated to a discrete list of specific substances let alone the panoply of recycling practices, the abuses over the years have expanded to the point of undermining critical areas of RCRA jurisdiction. One can only imagine what levels and types of abuses could be visited on a separate subtitle based on definitions of activities as diverse and different as recycling.

Last, what does it get you? Most of the requirements that would likely be applied to Subtitle C treatment, storage and disposal facilities would also be required of many recycling operations. Secondary containment, residue management requirements, financial responsibility, manifesting, etc. are all likely, if not essential requirements for most recycling facilities as well, particularly large scale ones. Do we go through the process of establishing a whole separate subtitle only to vary a relative handful of requirements for a discreet number of facilities? If this is the case, why not simply subject these facilities to RCRA Subtitle C jurisdiction but tailor the standards, permit procedures and delisting procedures to accommodate the legitimately unique elements of waste recycling operations?

## 3. The Value Test

Another concept that has been suggested as the basis for distinguishing between manufacturing-type and waste-type reuse practices is the concept of value—whether or not the recycling practice produces a product of value that is marketed as a legitimate product. On its face the value test has some appeal in that it holds the potential to distinguish between sham operations, which produce bogus products that no one buys, and legitimate recyclers (i.e., solvents, lubricants, acids). The real question with the value test is the value to whom and for what. Is it value to the generator of the waste, the person who accepts the waste, or the ultimate consumer? Is "value" the value of the product itself or the value of disposal and treatment cost avoided? Moreover, the "value" of products is an ever fluctuating base-

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paramount interest in regulating used oil is to assure protection of human health and the environment. However, the Administrator should make every effort not to discourage recycling of used oil. For example if there are several alternative controls that would be environmentally acceptable, the Agency should allow those that would be least likely to discourage used oil recycling."

line for things such as scrap metals, used oil, and other commodities. One day everybody wants it, the next day nobody wants it. Last, the value of waste-derived products is subject to substantial manipulation by unscrupulous operators who simply seek to give the appearance of actual sales, which in effect are no more than paper transactions.

While the value test may be used as a confirming criteria of recycling activity, the value test by itself cannot be used to delineate RCRA jurisdiction, for even facilities that would demonstrate positive value of reclaimed products must be subject to the necessary preventive controls. For example, solvent reclaimers clearly produce products of value that are sold in commerce and would pass any conceivable value test. Many Superfund solvent reclamation sites no doubt produced useful products, but nevertheless created significant environmental damage. Should solvent recyclers be exempt from RCRA simply because they produce a product that is of legitimate value?

So too, several precious metal reclaimers have asserted that subjecting them to RCRA regulation would undermine the operations and their profitability, and so long as they continue to produce a product of value to society they should therefore be exempted. EPA perversely has at least adopted this philosophy on an interim basis in their solid waste definition stating that:

"EPA continues to believe that the exemption for precious metal-containing waste being reclaimed for their precious metal content remains justified because of the high value of the metals being reclaimed."<sup>21</sup>

Tri-state Mint in South Dakota has produced thousands of precious metal coins, but was in no way deferred from causing significant groundwater contamination in Sioux Falls. The fact that Film Recovery, Inc. produced a high quality reclaimed silver did nothing to prevent the shocking nature of the human health and environmental insults from its operations. Cyanide emission standards and other residual management requirements are imposed on every other commercial waste management facility and remain fully applicable to firms like Film Recovery, Inc.

Another major shortcoming of a "value" test is evidenced by the magnitude of the leaking underground storage tank (LUST) problem. Thousands of facilities lost tons of supposedly "valuable" product. Moreover, many facilities have lost such massive product volumes (i.e., Mobil Oil's loss of over 20 million gallons at New Jersey storage facilities) that conscious decisions apparently were made to allow continued product leaking because the cost of detection and cleanup exceeded the "value" of the recovered product.

Moreover, recent court decisions concerning issues in the first-third land disposal ban rule, and the mining industry's challenge to EPA's authority to regulate certain smelting and mining wastes under RCRA, directly address the question of the Agency's scope of authority over recycling practices. The D.C. Circuit Court of Appeals has rendered opinions in both cases which hold that simply because a waste is amenable to recovery or results in the production of something of value in no way forecloses RCRA jurisdiction.<sup>22</sup> Contrary to what the intervenors suggested in the mining waste case it is also immaterial under AMC I, that the method of waste treatment prescribed by the Agency results in the production of something of value, namely, reclaimed metals. Indeed the AMC II decision expressly disavowed a reading of the statute that would prevent EPA from regulating the processes for extracting valuable products from discarded materials that qualify as hazardous waste.<sup>23</sup>

#### 4. The Product Equivalency Test

Another approach to drawing RCRA's jurisdictional line between manufacturing and waste processing is where reuse focuses on the extent to which the concentration of toxic constituents of waste is equal to or greater than the concentration of similar constituents in commercial products. The argument is that if the concentration of toxic constituents in a waste is no greater than the concentration of the same constituents in a routinely used feedstock material or commercial product, then the operation should not be considered waste management, but rather production. For example, EPA stated that regulating furnaces used to recover metals from hazardous waste (i.e., K061 electric arc furnace dust which contains zinc and other heavy metals) as a form of waste treatment would be like directly regulating the

<sup>21</sup> 50 FED. REG. 648 (January 4, 1985). 40 CFR Part 261.6(a)(2)(iv).

<sup>22</sup> *American Petroleum Institute v. EPA*, 906 F.2d 729, decided June 26, 1990 (D.C. Cir.), slip op. at page 29, footnote 16.

<sup>23</sup> *American Mining Congress v. EPA*, (AMC II), No. 88-1835, decided July 10, 1990 (D.C. Cir.) slip op. at 12-15.

industrial production of zinc from ore. The court again addressed this issue in the first third land disposal ban litigation, where EPA presumed to exempt from the land ban regulations and RCRA jurisdiction any K061 electric arc furnace dust sent to a zinc smelter for recovery, irrespective of the fate of the toxic heavy metals for which the waste was originally listed (i.e., lead, cadmium, chromium). The court found nothing in RCRA or its legislative history that justified the use of such a products or feedstock equivalency test as a basis for terminating RCRA jurisdiction.<sup>24</sup>

This approach suffers from numerous other subjectivities and potential abuses, and lacks any environmental basis. Should we cease to regulate waste pesticides simply because the products themselves contain the same concentrations of toxic constituents as when they are discarded? How do we compare waste constituent concentrations to products when the toxic constituent concentrations of many products or feedstocks vary widely? Do we compare waste constituent concentrations with the dirtiest product analogues or with the cleanest? How do we compare waste derived products such as "aggregates" to their so-called virgin analogues which may have no specifications or whose very composition is at best ambiguous (i.e., anti-skid materials, soil conditioners, fill materials)? We fill materials and soil conditioners really products?

This approach is perhaps the most dangerous of all discussed to this point in that it gives rise to the rat hole theory of environmental de-regulation. In short, find the dirtiest product analogue to your waste that you possibly can, "recycle" it in some fashion and claim that it is thereby exempt. Two wrongs now make a right. There are few waste streams that could not be claimed to be product analogues of some sort given that wastes themselves are by definition derivatives of product manufacturing. Moreover, stated alternatively this approach would limit RCRA jurisdiction over waste-derived products and recycling to only those situations where the underlying virgin product had undergone regulation or control under another environmental statute. The argument goes that since we do not regulate the production of fertilizers from virgin ores, or the slag generated from the smelting of virgin materials, therefore we cannot and should not regulate the resulting residues when hazardous wastes are used as feedstock. There are no substantive regulations governing the production of virgin materials from crude oil either. Does that mean we shouldn't regulate the regeneration of new solvents from spent hazardous wastes? RCRA jurisdiction over waste recycling practices cannot be limited or trumped by the failure to regulate analogous activities using virgin products under other statutes. The failure to control aspects of manufacturing under TSCA, for example, cannot override or control the analogous production process using waste feeds under RCRA.

### 5. The Indigenous Principle

Yet another approach to the gerrymandering of RCRA's jurisdiction was developed by the Agency in the form of its indigenous principle—a variation on the products equivalency test. The indigenous principle reflected the Agency's view that RCRA jurisdiction ceased when hazardous wastes were used in a production process because the wastes were no longer considered "discarded". Thus the indigenous principle turns on whether wastes are delivered to a "production facility" rather than merely the comparability of constituent concentrations to virgin feedstock or commercial products. In the first third land disposal rule the Agency relied on the indigenous principle to conclude that it had no authority to establish concentration based BDAT standards for K061 electric arc furnace dust that is reclaimed in a zinc smelter, nor continuing authority under the Agency's own derived-from rule to regulate disposal of the resulting slag residue which contains many of the heavy metals for which K061 was originally listed as hazardous (i.e., lead, cadmium, and chromium). In its recent opinion, the D.C. Circuit held that the indigenous principle "derives from a flawed interpretation of the scope EPA's statutory authority."<sup>25</sup> Nothing in either RCRA or prior case law (AMC I) requires that EPA forswear regulatory authority over hazardous wastes that are delivered to a production facility.<sup>26</sup> The court also went on to note that K061 is not part of "an ongoing manufacturing or industrial process" within the "generating industry" but rather it has become part of the waste disposal problem by being sent to a facility as part of a treatment

<sup>24</sup> *American Petroleum Institute v. EPA*, 906 F.2d 729 (D.C. Cir.), slip op. at 28, footnote 15. The court said that the two forms of regulations might be "like each other, but they are by no means one and the same."

<sup>25</sup> *American Petroleum Institute v. EPA*, supra, slip op. at 24.

<sup>26</sup> *Id.* at 29-30.

program which is why EPA has the power to require that K061 be subject to mandatory reclamation.

#### VIII. HWTC RECOMMENDATIONS

##### A. *Proposed Solution to RCRA's Recycling Question: Conditional Exclusions for Direct Reuses and Closed Loop Recycling; RCRA Controls for Other Reuse Practices*

- RCRA's recycling regulations must encourage firms to hire engineers not lawyers and direct firms to achieve real waste minimization by reconfiguring their manufacturing process to directly reuse materials or to recycle in a closed loop manner that prevents environmental insults. The current regulatory exclusions for direct reuse and closed loop recycling are valid concepts, but must be more carefully defined and conditioned upon the maintenance of preventive management standards.

- There are numerous situations where waste/secondary materials generated by a manufacturing process can be directly reused as a feedstock in another process (i.e., chemical intermediates), directly reused as a product (i.e., kerosene), or reused in a closed loop manner (i.e., reinserting solvent via enclosed pipe systems). However, just because such secondary materials are reused in an apparently beneficial manner, the law cannot sanction the use of unlined lagoons in the management loop or allow such reuse practices to mask the disposal of other non-reclaimed "along for the ride" toxic constituents.

- The solution is to retain these three limited exclusions, but eliminate the self-defining, self-policing nature of RCRA's exclusions, and require that they be conducted in an environmentally sound manner. Firms that can reconfigure their process to satisfy the following terms and environmental conditions would be considered an exempt manufacturing process, not waste management/recycling operations. This gives firms the strongest possible incentive and a concrete mechanism by which to achieve real waste minimization through engineering change, not merely "exempt" themselves via legal legerdemain. Other reuses that cannot meet these terms and conditions would be regulated as waste management operations under RCRA, but under revised and streamlined permitting procedures for many of them.

- All other recycling practices that do not qualify for direct reuse or closed loop exclusions must be subject to RCRA Subtitle C management standards, and permitting requirements.

- However, the delisting process should be revised to expedite, if not eliminate, from any formal delisting requirements for the products of recycling that are neither applied to the ground nor burned. Materials such as reclaimed solvents, lubricating oils, reclaimed metals and the like, should in no way be required to go through a formal rulemaking mechanism to "delist" or exclude the reclaimed product from RCRA.

- For products of recycling operations that are applied to the ground or burned in any fashion, (i.e., fill materials, anti-skid materials, fertilizers, fuels) the Agency should be given explicit authority to establish stringent environmental standards that go beyond simply meeting the best available treatment requirements of the land disposal ban program. To do otherwise would allow firms to place on the ground as "products", materials that contain higher levels of leachable toxic constituents than would be allowed if the material were placed into a lined, state-of-the-art landfill. Due to the potential for land-applied products to be put into environments and be subject to direct physical and chemical insult that may cause acute health or environmental damage (i.e., food crop zones) the Agency must be directed to establish standards for land placement of waste-derived products to prevent any untoward effects, rather than create an incentive for firms to simply obviate RCRA controls by calling their wastes "products".

- Eligibility for Bevill exemption must be eliminated for residues produced by the recycling of hazardous wastes in Bevill devices. Units that burn or process wastes generated independent of the Bevill process (i.e., hazardous waste combustion residues from cement kiln burning) were never intended to be classified as the origin "special" wastes named in the statute.

- We support revisions to the permit process for those units and operations that are limited to tank and container systems, that are properly contained and that operate at facilities that do not have corrective action releases or obligations. The current permit process should not be viewed as a "one size fits all" process and needs to be stratified to deal with the diversity of sites, unit operations and risks they pose.

## VIII. OTHER NECESSARY REVISIONS TO RCRA

*A. Broaden RCRA's Scope of Coverage Over Hazardous Materials That Are Not Currently Classified As Hazardous Waste*

- Many materials that are hazardous in fact, are not hazardous under the law.
- For example, most pesticide production wastes and use sludges are exempt from RCRA controls. Only actual commercial pesticide products are regulated, and only if the discarded pesticide has one active ingredient. If the discarded pesticide product is a mixture of two or more ingredients it is exempt from RCRA. As bizarre as this may sound, that is current RCRA non-regulation.
- RCRA currently has no measure of aquatic toxicity or radioactivity.
- RCRA must be amended to eliminate these critical gaps in coverage. In this regard, the State of Washington characteristic system may be a useful model.

*B. Used Oil; An Environmental Threat Goes Unaddressed, A Resource Is Wasted*

- One of the largest volume hazardous wastes being generated remains largely unregulated. Ninety-five percent (95 percent) of all used oil that is "recycled" is merely burned as a "non-hazardous" fuel under lax standards for lead emissions.
- The burning of used oil is one of the largest sources of airborne lead emissions in the country today.
- There are 63 used oil recycling facilities on the NPL, more than any other recycling activity.

## SOLUTION: ADOPT CALIFORNIA'S MODIFIED LISTING APPROACH

- Adopt a "modified listing" approach that addresses concerns regarding the permitting of gas stations and the purported stigma on the reclaimed product.
- Allow gas stations and other collectors to avoid permitting provided they properly contain collected used oil and transfer it to permitted transporters. oRegulate actual recycling facility (blenders, re-refiners) as hazardous waste facilities.
- Allow for self-implementing marketability of reclaimed used oil products provided they meet an environmentally stringent specification for toxic constituents.
- Lower the allowable lead level in "non-hazardous" used oil fuels to 10 ppm, the level EPA uses for lead-containing hazardous waste fuels.
- Solution provides a template for other recycling situations as well.

*C. Land Disposal Ban Program; A Successful Program Being Dismantled*

- Despite the stringent requirements of the 1984 RCRA Amendments, EPA has significantly undermined this cornerstone of preventive management in several key areas.
- "No migration" petitions are being granted that allow for significant levels of constituent migration so long as it is not deemed "harmful." The "no migration" standard is being transformed into a "no harm" standard.
- Dilution is being allowed as a treatment method for certain hazardous wastes (i.e., ignitable, corrosive, reactive, explosive, metal-leaching).
- The Bevill special waste exemption is being allowed to trump the land ban treatment standards. Therefore, cement kiln dust, fly ash and smelting residues produced by furnaces that also burn hazardous waste are not required to treat these residues for heavy metals or other constituents before being placed on the ground.
- Unless the statute is clarified, EPA may attempt to undermine land ban treatment requirements by promulgating lax self-implementing "de minimis" delisting levels that would effectively exclude a waste from RCRA coverage before it was treated to meet the land disposal ban requirements.

## SOLUTION: REAFFIRM THE KEY ELEMENTS AND INDEPENDENCE OF THE LAND BAN PROGRAM

- Require that no-migration petitions demonstrate no physical migration with a reasonable degree of certainty.
- Prohibit dilution as a treatment method.
- Clarify that neither the Bevill provisions, nor any subjective de minimis delisting level can trump the objective and preventive standards of the land ban program.

*D. Prevent Impediments to Permitting; Permitting Impediments Frustrate RCRA Goals*

- Refocusing on recalcitrant States to create needed capacity solves only part of the problem.
- Barriers to transportation and unreasonable impediments to permitting must also be addressed.

—The Nation's hazardous waste management system depends upon sophisticated facilities that provide specific treatment and disposal technologies.

—Congress' objectives in RCRA for the land ban and corrective action programs are frustrated by transportation bans and permit impediments.

● Constitutional challenges to overturn these State laws is disruptive, and not the long-term solution.

#### SOLUTION: STATE CONSISTENCY WITH RCRA MUST PREVENT INDIRECT BARRIERS

● State programs must be "consistent" with the Federal program. RCRA § 3006.

● Under RCRA, States and local governments should not be able to block waste transportation and facility permitting by direct, or indirect, measures that do not have a reasonable basis in protection of human health and the environment.

● Therefore RCRA § 3006 on "consistency" of State programs should be amended to require that no State or political subdivision shall prohibit, restrict or impede the siting, permitting, or operation of such facilities without a reasonable basis in the protection of human health and the environment.

● In addition, RCRA should impose deadlines on the permitting process to ensure that unreasonable delays do not frustrate permitting.

#### ATTACHMENT A

##### THE TEN HIGHEST RANKED RECYCLING SUPERFUND SITES

	Rank
10. Western Processing Co. (WA)—Solvent recycling .....	49
9. Schuylkill Metals Corp. (FL)—Battery recycling .....	43
8. Bridgeport Rental (NJ)—Waste oil recycling, waste oil recycling residues ...	35
7. McKin Co. (ME)—Waste oil recycling .....	33
6. Arcanum Iron & Metal (OH)—Scrap metal recycling, batter recycling .....	28
5. Motco, Inc. (TX)—Waste oil recycling .....	27
4. McAdoo Associates (PA)—Waste metals reclamation .....	26
3. Keefe Environmental (NH)—Transfer station, over-accumulation .....	19
2. CPS/Madison Industries (NJ)—Waste solvent recycling .....	10
1. Bruin Lagoon (PA)—Fly ash disposal, waste oil recycling residues .....	3

\* Cal West Metals (NM), Pearl Harbor Naval Complex (HI), and Petrochem Recycling Corp. (UT) are three recycling sites ranked as "Group 1" sites which puts them in the top 50 sites. Since Cal West and Pearl Harbor are Federal sites, they will be grouped, but not ranked. Petrochem and Pearl Harbor were proposed for the National Priorities List in the July 29, 1991 notice (56 F.R. 35846), and have yet to be finalized.

#### ATTACHMENT B

##### Recycling Superfund Sites By State

Pennsylvania .....	20	Montana .....	4
Florida .....	16	Oklahoma .....	4
New York .....	14	Virginia .....	4
New Jersey .....	12	Ataska .....	3
Indiana .....	10	Arizona .....	3
Illinois .....	10	Arkansas .....	3
Michigan .....	10	Delaware .....	3
Ohio .....	10	Idaho .....	3
Washington .....	10	Iowa .....	3
California .....	9	New Mexico .....	3
Minnesota .....	7	Rhode Island .....	3
Missouri .....	7	Alabama .....	2
South Carolina .....	7	Georgia .....	2
Texas .....	7	Kansas .....	2
Wisconsin .....	7	New Hampshire .....	2
North Carolina .....	6	Hawaii .....	1
Utah .....	6	Maryland .....	1
Connecticut .....	4	Mississippi .....	1
Kentucky .....	4	Nebraska .....	1
Louisiana .....	4	North Dakota .....	1
Maine .....	4	Oregon .....	1

## Recycling Superfund Sites By State—Continued

Massachusetts.....	4	Colorado.....	1
		Total	239

## ATTACHMENT C

## ACTIVITIES AT RECYCLING SUPERFUND SITES

Used oil recycling.....	63
Solvent recycling.....	38
Metals recycling.....	38
Battery recycling.....	32
PCB recycling.....	27
Over-accumulation.....	23
Drum, barrel, and pail recycling.....	18
Reuse as fill and road material.....	19
Reuse as feedstock, other products.....	22
Recycling residue sites.....	20
Bevill-unit sites.....	25
Fly ash.....	11
Smelting.....	10
Cement kiln dust.....	4

Total recycling, recycling residue, and Bevill NPL sites ..... 239

\* As of July 29, 1991, there are 1,211 sites on the final National Priorities List. The above total includes some sites that were proposed in July, but have yet to be given a final listing, and some sites that have since been removed from the National Priorities List. Activity numbers sum higher than the total, because many sites engaged in more than one activity.

## ATTACHMENT D

## CURRENT REGULATORY STATUS OF RECYCLING PROCESSES

Used oil recycling.....	unregulated
Solvent recycling.....	unregulated
Solvent recycling (storage).....	regulated
Metals recycling.....	unregulated
Precious metals recycling.....	unregulated
Battery recycling.....	minimal controls
Battery recycling (storage).....	unregulated
PCB recycling.....	minimal controls
Over-accumulation.....	minimal controls
Drum, barrel, & pail recycling.....	unregulated
Reuse of waste as a product.....	unregulated
Reuse of waste as a feedstock.....	unregulated
Bevill-unit wastes.....	unregulated

## PREPARED STATEMENT OF EDGAR J. MARSTON, III

Mr. Chairman, I am Edgar J. Marston III and I am Executive Vice President and General Counsel of Southdown, Inc. Southdown is the largest domestically owned cement manufacturer in the United States, and the third largest overall with annual cement production capacity of approximately 6.5 million tons. Headquartered in Houston, Texas, Southdown owns and operates 11 cement kilns throughout the United States and distributes its cement through 17 distribution terminals in 11 different States. In addition, we have committed substantial time and physical, financial, and intellectual resources toward the use of our kilns as a mechanism to recover the energy potential of certain hazardous and solid waste fuels.

Today, I am speaking on behalf of the Cement Kiln Recycling Coalition ("CKRC"), the Portland Cement Association, the American Cement Alliance, and, on certain issues, the National Association of Chemical Recyclers ("NACR"). Information on each of these organizations is attached.



I would like to thank the Chairman, the Ranking Minority Member, and each of the members of the subcommittee for affording me the opportunity to explain how the cement industry can make significant contributions to our nation's limited hazardous and solid waste management capacity while producing a valuable product, minimizing consumption of fossil fuels, and preserving our most valuable natural resource—American industrial jobs. These objectives can be attained using presently existing cement kilns, without having to build expensive, single-purpose facilities which need a large waste stream to survive and be profitable. For a fuller comparison, see attached EI Digest (August 1991) article entitled, "Cement Kilns 1991."

As responsible corporate citizens, cement manufacturers and NACR member companies (who are engaged in hazardous waste recycling under existing RCRA rules) are cognizant of the many environmental challenges resulting from the generation of industrial and public wastes. From both an ecological and a financial perspective, we support the efforts of the Congress to amend the Resource Conservation and Recovery Act of 1976 ("RCRA") to facilitate the safe and effective management of these wastes.

Because there is inadequate existing disposal capacity for hazardous wastes, the discussion of S. 976 (introduced by Senators Baucus, Burdick, and Chafee) comes at a particularly opportune moment in light of its attention to the recycling of hazardous materials. After all efforts have been made to minimize the generation of hazardous wastes, no one would disagree with the premise of S. 976 that appropriate recycling efforts should now be one of our next highest priorities.

Today, I would like to focus on a particular technology that can accomplish many of the objectives of S. 976 and of RCRA—a combination of resource conservation and environmental protection. Because of the unique properties found in the cement kiln, it can effectively use organic wastes as fuel substitutes, thereby destroying or immobilizing the hazardous components of wastes used as fuel while simultaneously lessening our nation's crushing dependence on fossil fuels. I would suggest that it is the essence of resource conservation and recovery to utilize the same piece of heavy industrial equipment to serve two functions vital to our modern society.

#### *I. Cement kilns can make a safe and effective contribution to hazardous waste recycling.*

Cement kilns manage hazardous waste by a process of high-temperature combustion. All thermal destruction technologies are dependent on the same three parameters: time, temperature, and turbulence (mixing of materials). Given sufficient time in the combustion zone, high temperatures coupled with turbulent mixing and an adequate air supply will result in the virtual destruction of all toxic organic compounds present in the fuel mix or in the feedstock load. In addition, cement kilns utilize state-of-the-art air pollution control devices. See attached explanatory brochure.

#### *A. The cement kiln environment.*

Cement kilns utilize large volumes of raw materials from the Earth's crust—e.g., limestone, clay, sand, and iron. These materials are mixed and heated to very high temperatures for long periods of time to produce marble-sized, lava-like pellets, known as "clinker." When the clinker cools, it is mixed with gypsum and ground to a fine powder to produce Portland cement, a principal ingredient in concrete and other constructing materials.

In order to make this process work, the ingredients are heated for up to three and one half (3 1/2) hours in a revolving kiln that provides a turbulent atmosphere with material temperatures typically reaching 2,700 degrees F—the temperature needed to calcine limestone to form clinker. This unique environment results in cement kilns meeting or exceeding the parameters for thermal destruction necessary to destroy 99.99 percent or more of the organic compounds in hazardous waste recycled as fuel. By way of comparison, EPA incinerator operating permits typically only require hazardous wastes to be held for two seconds at temperatures of 1,800 degrees F, whereas cement kilns produce flame temperatures over 3,000 degrees F with substantially (up to three times) longer residence times.

The key ingredient of cement—calcined limestone—is also highly alkaline and therefore neutralizes much of the acidity of waste-derived fuels. The hundreds of tons per hour of limestone that courses through cement kilns creates an effective scrubbing mechanism that is not found in other thermal destruction processes. Limestone scrubbing is so effective in principle that it is used to remove SO<sub>2</sub> emissions in power plants and boilers. Also, cement kiln dust is often used to stabilize hazardous wastes deposited in landfills because it neutralizes acids, is finely ground and possesses stable cementitious properties.

### *B. Metals management.*

Fuels (whether hazardous wastes or not) used in cement kilns may also contain metals: basic elements that can neither be created nor destroyed in conventional industrial furnaces or boilers. Cement manufacturers manage these metals in three main ways. First and most importantly, cement kiln operators burning waste-derived fuels limit emissions by carefully restricting the metals content in wastes accepted for recycling. Second, dust particles containing metals are returned to the kiln through closed-loop mechanisms. There, the metals are incorporated into the cement clinker—chemically bonded in a highly stable crystalline matrix. Third, those particles not returned to the kiln are captured in state-of-the-art air pollution control devices, such as electrostatic precipitators or baghouses. Any emissions that may be emitted are strictly regulated under the Clean Air Act and under the EPA's rule governing "Burning Hazardous Waste in Boilers and Industrial Furnaces," known as the BIF rule.

One proof of the environmental integrity of cement kiln technology is found in the product. As you may know, coal, coke, and oil are natural resources that inherently contain significant levels of metals. Yet, tests have shown that the leaching characteristics of cement made with hazardous waste fuels are comparable to those of cement produced solely with traditional fuels; both rates are appreciably below the standards set by Toxicity Characteristic Leaching Procedure ("TCLP"). Recent Portland Cement Association studies conducted on cement, concrete, and cement kiln dust have confirmed this conclusion.

While other industrial processes may view metals exclusively as a problem, cement manufacturers view their metals load as a carefully controlled ingredient in the cement. Metals are needed in clinker to give the product its compressive strength and other properties. Therefore, cement manufacturers have always carefully managed metals because ingredients in the wrong proportion can force the final product out of compliance with rigorous ASTM and other voluntary consensus industry product standards. And, for this reason, only those hazardous wastes which are suitable under production criteria can be used for fuel substitution or feedstock.

### *C. Scientific consensus of support.*

It is ironic that well-understood technology with a tremendous wealth of data and hard science to back it up is now being viewed by some as new-fangled or different. In reality, the hazardous waste fuel potential of cement kilns dates back to the early 1970's and has its roots in a cooperative undertaking between the U.S. and Canada. Norway, France, Germany and numerous other countries continue to rely upon cement kilns as elements of their hazardous waste management capacity. In fact, Norway's Ministry of the Environment concluded last year that, "A cement kiln seems according to today's knowledge to be the best alternative for burning hazardous waste." A substantial international research base supports the technology.

Experts in the United States have been similarly impressed. Donald Drum, the director of the Hazardous Materials and Waste Management Institute, observed that, "In terms of chemistry, you can't get a more ideal situation than a cement kiln for destroying the chemicals in most organic hazardous waste." Noting that "if EPA standards are met," Robert Mournighan of EPA's thermal destruction branch pointed out that "there should be no negative effect on the environment or health hazard to the community" from the use of hazardous waste fuels in cement kilns. This conclusion is supported by the many EPA tests on cement kilns burning waste-derived fuels.

After examining independent and EPA-conducted risk assessments, the New York State Legislative Commission on Toxic and Hazardous Wastes concluded in their December 1987 report that "air emissions from properly operated cement kilns . . . burning hazardous wastes do not present environmental or public health risks." And Dr. Randall Seeker, a combustion engineer who serves on EPA's Science Advisory Board, addressed the issue of metals management, saying, "For most metal-bearing wastes, there are no better options than to incorporate the metals into cementitious matrices—short of not producing the waste in the first place." All in all, there is a strong consensus among responsible scientists that the cement kiln alternative is environmentally sound.

## *II. Cement kiln fuel substitution achieves important recycling objectives.*

Waste fuel substitution in cement production is a vital link in a unique and efficient materials reuse chain. Fuel substitution provides a valuable end use for the residues of recycling, solving a waste disposal problem and conserving fossil fuel resources.

### A. Fuel savings.

The philosophy behind RCRA (beyond, of course, the obvious need to minimize the generation of waste wherever feasible) is to create safe disposal techniques for hazardous and solid waste while simultaneously stimulating resource conservation and recycling. Congress specifically noted in its 1976 RCRA findings that "solid waste represents a potential source of solid fuel, oil or gas that can be converted into energy." Substituting hazardous waste-derived fuels in cement kilns for a certain percentage of fossil fuels seems to be precisely in that spirit. In this country, the amount of hazardous waste fuel that is already recycled annually in cement kilns is equivalent to approximately four million barrels (168 million gallons) of oil or one million tons of coal. By substituting waste-derived fuels, cement kilns serve a double duty in prolonging our supply of limited virgin fossil fuels, while making a necessary and useful product—Portland cement. It's recycling at its best.

### B. Cement as a vital product.

Most importantly, cement kilns produce a product, unlike other thermal destruction technologies. Cement is essentially the glue which makes concrete—a construction material for which there is no substitute. Cement and concrete will be key elements in achieving the national goal of rebuilding our nation's crumbling infrastructure. In fact, the April 1991 edition of *The Atlantic Monthly* noted that:

Concrete is second only to water as the world's most heavily consumed substance. Slightly more than a ton of concrete is produced every year for each human being on the planet, some six billion tons a year altogether. Americans, who rank tenth in the world in concrete consumption (the Swiss are first), use two tons per person. . .

Fuel substitution provides an important and safe mechanism for American cement manufacturers to remain competitive with foreign cement manufacturers who choose to export cement into the United States. Such an approach preserves valuable U.S. jobs. In addition, the existence of an important market for cement creates an additional safety incentive. Cement manufacturers cannot afford to do anything that might jeopardize the quality of cement, which must meet exacting ASTM and other specifications. Therefore, cement manufacturers sample and test every shipment of waste-derived fuel—and ship back to the processor any shipment that does not meet exacting specifications.

### III. Needed waste management capacity necessitates cement kiln recycling.

Although the cement industry is very supportive of source reduction and waste minimization, these approaches do not offer immediate solutions for the volumes of waste our society has already created—or for much of the waste we will continue to create. American industry and households generate 240 million tons of hazardous waste every year. And while dioxin or PCBs may grab the headlines, much of the other hazardous waste comes from the chemicals and solvents in the paints, spot removers, cleansers and furniture polish used everyday and found under our sinks and in our garages. It is precisely chemicals like these which, when discarded, are ideally suited for use as fuel substitution in cement kilns. Much of this material can be recycled and reused after processing in the types of RCRA-regulated facilities operated by NACR member companies. Total recovery is not possible, but the unrecoverable spent materials and residues have a high Btu value.

Even purportedly clean industries—like computers or telecommunications—also generate hazardous waste. Every time a microchip is manufactured, it gets washed in a solvent. That solvent, when no longer usable for its original purpose, is a waste-derived fuel candidate. According to the EPA's 1987 Toxics-Release Inventory (released in June 1989), the electric and electronic equipment industry (of which microchip manufacturers are a part) was the eighth largest generator of hazardous waste for off-site transfer.

Simply, economics drive the recycling incentive. Now, EPA is implementing the Congressionally mandated restrictions on land disposal of certain hazardous waste; waste minimization is the most-favored alternative. The incentive is greater than ever to reuse materials on-site as land disposal and treatment costs continue to increase. However, certain spent solvents or other used products can never be made pure enough to be reused or cannot be cost-effectively recycled. The ideal answer for these wastes is to turn them into something economically useful—like fuel for cement kilns.

Without the capacity already provided by cement kilns, the U.S. would face an even greater waste management capacity crisis than it does today. Federal law now requires each State to have capacity to handle its own hazardous waste or to face a

loss of Federal funding under Superfund. If the capacity currently being provided by CKRC member companies were interrupted tomorrow, CKRC has estimated that the States would be faced with the immediate need to have up to 35 new incinerators designed, sited and permitted within three months to handle the equivalent capacity necessary to preserve Superfund funding. Failure to maintain this capacity would threaten the viability of our waste management efforts and would possibly result in questionable practices being undertaken.

Some advocacy groups oppose cement kiln recycling on the grounds that cement kilns provide a less expensive management alternative and therefore remove an inducement to waste minimization. There is still every incentive for the waste generator to minimize production of wastes. Generators face substantial disposal costs with any form of thermal destruction. In addition, liability concerns provide continuing inducements to waste minimize. Because it is highly unlikely that all waste minimization strategies can be implemented, there will still be a significant amount of waste generated and a great need for safe and responsible management capacity. And even if the utopian goal of zero waste generation were achieved, cement kiln operators would continue to produce cement using other fuel sources.

In fact, the goal of protection of human health and the environment may actually be delayed when adequate capacity is not available. In order for the EPA to carry out its mandate to proceed with implementing the Congressional ban on land disposal for a variety of waste streams, it must first establish capacity for the disposal of these streams. Cement kiln recycling, arguably preferable under the waste management hierarchy articulated in S. 976, gives EPA the opportunity to expedite its land ban designations. Also, because many source reduction technologies are years (if not decades) away, the worst thing that could happen would be a waste management crisis in the interim. Waste minimization goals are better met when capacity can be demonstrated rather than when it is assiduously avoided.

#### *IV. Cement manufacturers support current regulatory requirements.*

Competitors of cement kiln recyclers sometimes make the claim that the process occurs under "unregulated" conditions. In reality, EPA has recently finished an extensive process of developing regulations regarding the use of hazardous wastes as fuel substitutes in cement kilns, in addition to the extensive State and Federal regulations already in place. The BIF rule was published by the Agency on December 31, 1990 [56 F.R. 7,134 (1991)] and became effective on August 21, 1991. Cement manufacturers supported this rule, and vigorously support the concept of regulated recycling in cement kilns.

#### *A. The BIF rule.*

Having engaged in an open and well-publicized process, EPA produced regulations that require stringent limitations on air emissions. A pre-compliance certification must have been submitted by August 21, 1991, testing demonstrating compliance must be submitted by August 21, 1992 (unless extended), and the exhaustive Part B permitting process must also be completed. The standards that cement companies will have to meet include a destruction and removal efficiency of 99.99 percent for organic wastes as well as stringent limitations on emissions of metals, particulate matter, hydrochloric acid, free chlorine, and products of incomplete combustion ("PICs").

EPA Assistant Administrator for Solid Waste and Emergency Response Don Clay observed that, "The facilities will have to meet our most stringent requirements, ensuring public safety near these sites." And in a recent letter to a Florida county administrator, the Assistant Administrator further noted, "I assure you that now that the BIF rule is in effect, BIFs operating under interim status are subject to substantive requirements that protect human health and the environment."

The BIF rule also provides an important reinforcement for good manufacturing processes already in place at state-of-the-art facilities. Dr. Seeker, who has worked extensively with the BIF rule, has noted:

A major component of the regulatory approach in the rule is the monitoring and control of the process in order to ensure the continuous acceptable performance of the process when hazardous waste fuels are used. By carefully monitoring the process in order to determine when something might lead to noncompliance, cement kiln operators are able to control the system to ensure the process stays within a safe window of operating conditions. These monitoring control schemes are readily incorporated into the cement manufacturing process and are compatible with conditions necessary to produce acceptable cement quality.

An extensive explanation of the BIF rule and a comparison with rules governing other forms of thermal destruction are attached for your information.

#### *B. Additional environmental controls.*

As comprehensive as it is, the BIF rule is not the only regulation with which cement kiln recyclers must comply. RCRA also has rules governing the storage of hazardous waste fuels on site prior to recycling. For almost 20 years, the cement industry has been one of the most extensively regulated industries under both the Clean Air Act and its State analogs. Recently, the Clean Air Act was extensively revised with the addition of a host of complex standards and permitting procedures applicable to cement kilns. The Occupational Safety and Health Act governs employee safety and training. Department of Transportation regulations establish standards for safe shipment of waste. The Clean Water Act regulates the quality of storm water and process water leaving the plant through the NPDES permit process, and the Safe Drinking Water Act protects groundwater resources. The Mine Safety and Health Act sets standards for employees at quarries and cement plants. All of these Federal regulatory schemes are in addition to extensive State environmental requirements.

#### *V. Desirable legislation for cement kiln recycling.*

Environmental regulation has created a need for increasingly sophisticated waste management techniques. The existing market for cement and cement products has encouraged the development of such techniques. The upcoming RCRA reauthorization is an opportune moment to encourage hazardous waste recycling by considering the following:

##### *A. Recycling definition.*

Cement kiln recyclers and the cement industry believe that fuel substitution of hazardous waste-derived materials for fossil fuels squarely meets the objectives of resource conservation and recovery. Therefore, the definition of recycling should be carefully crafted to include fuel substitution so as to channel appropriate recycling incentives to cement kiln recycling. Doing so clearly achieves both environmental protection and energy conservation objectives.

##### *B. Characterization of product.*

Congress should provide careful oversight and if necessary clear guidance to make sure that EPA does not mischaracterize the intermediate product (cement) or the final product (concrete) as "hazardous waste" merely because hazardous waste was used as a fuel source or a feedstock. To term the product a "waste" of any sort would materially undermine the recycling incentive as it currently exists. Such a result sacrifices energy savings and ultimately endangers American jobs because producing and selling cement remains the primary business of any cement kiln operator. Further, it would disrupt a functioning market-based recycling option that is providing needed capacity while source reduction and waste minimization technologies are evolving.

##### *C. Regulation of cement kiln dust (CKD).*

In some instances, the cement manufacturing process will produce CKD residue that after extensive recycling can be recycled no further. Such CKD should be managed in a manner fully protective of human health and the environment. Cement kiln recyclers and the cement industry support the development of appropriate regulations for the management of this cementitious material. Congress has directed EPA to perform a detailed study on CKD with an eye to determining how it should be regulated under RCRA. We understand that this study is subject to a recently signed consent decree that requires its completion by April 23, 1992, and a subsequent report to Congress with management recommendations by October 23, 1992.

Based on our extensive industry testing, cement kiln recyclers and the cement industry are confident that the EPA study, when completed, will demonstrate that CKD—regardless of the type of fuel used to fire the kiln—has properties, including high volume, low toxicity, minimal organic content and low permeability, which make its management as a hazardous waste totally unnecessary. On the other hand, cement kiln recyclers and the cement industry are committed to the establishment of responsible CKD management practices and appropriate testing protocols for CKD. To this end, the cement industry has committed its resources to assure that all data EPA needs to complete its study and make its recommendations are available.

Thank you very much for this opportunity to address the subcommittee. Cement kiln recyclers and the cement industry do not pretend to have the silver bullet solu-

tion for all our nation's hazardous waste management problems. However, the industry is prepared to do its part for waste management, fuel conservation, and economic competitiveness. Not many elements of the RCRA debate can be said to accommodate so many convergent interests. We hope the subcommittee and the Congress will support this important technology.

We stand ready to directly assist the subcommittee in the drafting process. If there are any further questions or if you need additional information, Southdown, the affiliated groups, or I will be happy to respond to you or your staff.

#### ORGANIZATIONS REPRESENTED

##### CEMENT KILN RECYCLING COALITION

The Cement Kiln Recycling Coalition ("CKRC") is a group of more than 35 companies who have joined together to promote the safe and beneficial use of waste materials for fuel substitution in the cement manufacturing process. The CKRC's members include most of the major cement producers in the United States, as well as companies that collect, manage, and store wastes for use as fuel in cement kilns.

##### PORTLAND CEMENT ASSOCIATION

The Portland Cement Association ("PCA") is a voluntary organization of cement companies in Mexico, Canada, and in the United States. The Association was founded in 1916 with a mandate to "improve and extend the uses of portland cement and concrete." This mandate is unchanged. For 75 years PCA has served as the nucleus of the cement industry's work in research, market development, education, and public affairs. Today PCA represents approximately 80 percent of domestic cement production capacity.

##### AMERICAN CEMENT ALLIANCE

The American Cement Alliance ("ACA") is an association of companies representing 50 percent of the Portland Cement manufacturing capacity in the United States. The Alliance was formed in 1985 to address cement manufacturers international trade concerns, and in 1985 expanded to encompass other issues and interests that impact the cement industry in particular, and business in general.

##### THE NATIONAL ASSOCIATION OF CHEMICAL RECYCLERS

The National Association of Chemical Recyclers ("NACR") is an association representing commercial hazardous waste recyclers. All NACR member companies operate under RCRA Subtitle C storage requirements. Operating over 100 facilities nationwide, the NACR members service all types of manufacturers from large automakers and pharmaceutical companies to local dry cleaners and auto body shops. Collecting hazardous waste from various generators, the NACR members process these spent chemicals for reuse. Those chemicals unsuitable for reuse are processed into fuel and used to manufacture cement.

[Attachments to this statement have been retained in committee files.]

#### PREPARED STATEMENT OF KAREN FLORINI

##### INTRODUCTION

Thank you for this opportunity to testify. I am Karen Florini, Senior Attorney with the Toxics Program of the Environmental Defense Fund (EDF) in EDF's Washington DC office. EDF is a nationwide environmental advocacy group with over 200,000 members. EDF's Toxics Program has long been actively involved with the Resource Conservation and Recovery Act (RCRA). We participated in legislative work before the Congress at the time of RCRA's initial enactment as well as during the 1980' and 1984 Amendments. We also take part in administrative proceedings before the Environmental Protection Agency (EPA), which has primary responsibility for implementing RCRA, by submitting comments on many major regulatory proposals and participating in numerous public workgroups. In addition, where EPA fails to carry out RCRA as enacted by Congress, we bring litigation to compel adherence to congressional mandates.

Also joining in this testimony are the Natural Resources Defense Council, Greenpeace, Sierra Club, and U.S. Public Interest Research Group.

## OVERVIEW

As an initial matter, I want to stress that in our view the management of hazardous secondary materials—whether through recycling or disposal—ranks below toxics use reduction in the hierarchy of environmental desirability. We strongly urge the committee to include toxics-use reduction provisions<sup>1</sup> in crafting an overall RCRA reauthorization package.

At least in the near term, however, toxics use reduction will not entirely obviate the need for strict management standards for all hazardous secondary materials—both those that are disposed of and those that are recycled. Our testimony today addresses these latter subjects. Two fundamental points warrant mention at the outset. First, poor-quality recycling is no better than high-quality disposal; indeed, it is generally worse. While recycling of hazardous industrial waste provides important environmental benefits in terms of reducing demand for primary materials, those benefits can be more than counterbalanced by environmental releases of toxic constituents if recycling is conducted improperly. Accordingly, weakening of environmental standards cannot be allowed under the guise of supporting, enhancing, or encouraging recycling.

Second, it is critical that recycling of hazardous secondary materials not provide perverse incentives for increasing the number and concentration of toxic constituents in the products made from secondary materials. Put another way, the regulatory system must be crafted to avoid giving "safe harbor" to toxic constituents and thus creating incentives to divert them from wastes into products. We recognize that accomplishing this objective is not necessarily easy, but it is essential.

In order to provide background for EDF's specific comments, Part I of this testimony presents a very brief overview of the current status of key aspects of the RCRA Subtitle C program. Parts II-IV then discuss particular topics. Consistent with the committee's letter of invitation, Part II focuses on issues pertaining to the regulatory of hazardous "recyclables." Part III then turns to other aspects of the central question of the coverage of Subtitle C.

Our testimony closes by touching briefly in Part IV upon some of the other Subtitle C issues that must be addressed during reauthorization. Today's hearing is the first to deal with any aspect of Subtitle C, and it is focusing on recyclables. While this hearing is necessary, it is not sufficient. EDF strongly urges the committee to hold additional hearings on Subtitle C as part of the reauthorization process in order to adequately address flaws in the current regulatory system, as well as key issues regarding the inequitable distribution of waste facilities in low-income communities and those of people of color.

#### I. THE OBJECTIVES AND CURRENT STATUS OF THE RCRA PROGRAM

A fundamental purpose of Subtitle C of RCRA is ensuring that by-products of industrial processes are managed properly from the time of their generation. Put another way, Subtitle C is supposed to prevent the creation of future Superfund sites and other environmental contamination zones. Subtitle C can achieve this goal both directly, by requiring the proper management of wastes that are hazardous, and indirectly, by discouraging the creation of hazardous wastes in the first instance (through toxics use reduction, reliance on closed-loop recycling, or other means). Properly structured, Subtitle C can also provide incentives for maximizing the efficiency of our society's use of inherently toxic materials where no alternatives exist.

Unfortunately, EPA's implementation of Subtitle C to date has left much to be desired. Although some progress has been made, particularly in establishing a general management framework and requirements for pre-disposal treatment of hazardous wastes, our society still has a long way to go in reaching RCRA's basic goals and in creating appropriate incentives.

In particular, there are glaring weaknesses in the fundamental coverage of the program. Even if the management requirements of Subtitle C were perfect (which they are not), the system would prove inadequate because it fails to capture many of the materials that it should: many wastes that are hazardous as a factual matter are not hazardous under the current regulatory system.

Congress has sought to address at least some aspects of this problem before. Regrettably, EPA has failed to accomplish a significant number of the tasks mandated by Congress seven years ago when it last reauthorized RCRA, as detailed below. Significantly, however, the Agency has succeeded in carrying out tasks for which Congress included so-called "hammers"—provisions that would take effect automatical-

<sup>1</sup> Such provisions are found in H.R. 2880, the Community Right-to-Know More Act of 1991.

ly if EPA failed to complete rulemaking by a date certain. Although EPA missed a majority of the mandatory deadlines established by HSWA, it has met, completely or virtually so, the hammer-associated deadlines.

In EDF's view, a key lesson is that hammers serve an crucial role in requiring the Agency, other government agencies including the Office of Management and Budget, regulated entities, and the environmental community to work together in the time available to craft regulations. We think this strategy of regulatory leveraging is crucial in accomplishing RCRA's objectives.

## II. THE REGULATION OF HAZARDOUS "RECYCLABLES."

EDF commends the sponsors of S. 976 and their staffs for venturing into this extraordinarily complex and difficult area, which is one of the highest-priority issues for Congress's attention during RCRA reauthorization. While we support the bill's intent of clarifying EPA's jurisdiction over hazardous secondary materials, we have a number of reservations and concerns about the mechanisms found in section 405 of S. 976. This portion of our testimony addresses the conceptual issues first, and then turns to the particulars of section 405.

### A. Conceptual Issues

Although the committee's letter of invitation asks whether EPA already has adequate authority to regulate hazardous recyclables, we suggest that that question is no longer relevant at this juncture. For over a decade, EPA's jurisdictional controversies have provided lawyers with grist for lawsuits, with little environmental benefit. Enough is enough. Congress must act now to clarify EPA's jurisdiction to regulate hazardous recyclables.

It is equally clear that recyclables must not go unregulated. As detailed at length in the testimony of other witnesses this morning, recycling is not *per se* benign; recycling operations form a significant fraction of the nation's Superfund sites. This is true both for "legitimate" recycling, where beneficial products are made from secondary materials, and for "sham" recycling conducted for the primary purpose of evading Subtitle C requirements.

The inescapable fact is that the hazard presented by secondary materials depends on what those materials consist of and how they are handled, not whether those materials are ultimately disposed of or made into a product. Pretending otherwise is an unwise and ultimately futile basis for formulating environmental policy—in the long run you can't fool Mother Nature.

The critical question is where do we go from here. Do we tell EPA to go out and set up a new regulatory regimen, or do we build on the regulatory system that has been laboriously created over the past 15 years? In answering that question, several pragmatic factors must be taken into account.

First, as detailed below, EPA has seldom issued significant RCRA regulations in the absence of a court order or statutory hammer. Second, the hostility shown during the last decade by the Office of Management and Budget (OMB) to environmental regulations shows absolutely no signs of tapering off; indeed, as a member of EPA's Office of General Counsel staff said last year during a presentation to an American Bar Association symposium, the relationship between EPA and OMB is now worse than at any time in the past half-dozen years. And finally, EPA's inflation-adjusted budget is only modestly bigger than it was in 1976, despite the fact that several critical new issues have been added to the Agency's plate in the past 15 years—including global climate change, ozone depletion, Superfund, medical waste, acid rain, and so on—while few if any of the "older" issues have entirely gone away. Congress must take into account the availability of EPA's regulatory resources in determining how to address hazardous recyclables.

As a preliminary matter, we congratulate the committee on resisting calls by some to address this issue by directing EPA to go forth and develop a new regulatory regimen for hazardous waste recycling under a new "Subtitle R." The trio of factors outlined above lead irresistibly to the conclusion that such an approach is clearly doomed to failure, so much so that it cannot be taken seriously as an effective legislative approach.

Moreover, even if it were practicable, such an approach would still be inappropriate. Fundamentally, there is no reason to apply a different basic set of management standards to hazardous secondary materials that will be recycled versus those that will be disposed of. Regardless of their ultimate destination, those materials present the same hazard while stored or transported. Certain standards are simply irrelevant in the recycling context—almost by definition, something that is being recycled is not landfilled—but why does that require creation of a separate subtitle? Similarly, why should recycling operations be exempt from corrective action? If there is no



existing mess at those facilities, then corrective action is not triggered. If there is a mess, what is the justification for not cleaning it up?

It is sometimes argued that the problem is one of "stigma"—that calling recyclables "hazardous waste" in and of itself creates a major impediment to marketing of the products. EDF does not believe that this argument is persuasive. Indeed, we are concerned that it camouflages the real issues, namely those regarding appropriate management standards. Whether this is viewed as a genuine concern or a red herring, however, it is important to focus on substantive issues before dealing with semantic ones. In any event, insofar as the problem is inclusion of recyclables under the rubric of "waste," S. 976 already appears to eliminate this issue by its use of the broader term "hazardous secondary materials."

#### *B. Analysis of Section 405 of S. 976*

At the outset, we think there are three extremely important aspects of section 405 that must be preserved in the final legislation. First, new subsection 3004(y)(2) incorporates "antibacksliding" language expressly providing that the amendments provide no excuse for asserting that any materials and facilities currently covered by Subtitle C become exempt before substitute regulations take effect. Second, subsection 3004(y)(1) provides that additional materials get regulated by operation of law even if EPA fails to issue further regulations. As noted above, the history of Subtitle C demonstrates compellingly that such a structure is crucially important.

Finally, we strongly support the notification and certification provisions of subsection 3004(y)(4) for facilities that claim to be exempt from RCRA as closed-loop or direct-reuse process. For too long, such exemptions have been entirely self-identifying without any means of tracking who is claiming the exemption or of assessing the validity of the claim.<sup>2</sup>

Despite these positive features, we cannot support section 405 as currently drafted. Section 405 seems to be premised on the assumption that EPA will write a new set of regulations for recyclables, with a "hammer" provision that falls (thus pulling recyclables into the existing regulatory system) if EPA fails to do so within 24 months of enactment.

This approach raises several serious questions. First, why should EPA's limited resources be devoted to writing new regulations for recyclables, except to the extent that existing regulations need to be tailored to recyclables? To the extent that Section 405 is intended to allow for such "tailoring," it is far preferable to provide that existing regulations become fully applicable to hazardous secondary materials 24 months following enactment, and to allow EPA to use its existing general authorities under Section 3004 to tailor management standard as—and if—needed. As written, moreover, it is far from clear what would happen if EPA issues regulations that address some, but not all, aspects of the management system, or if regulations emerge after the 24-month cutoff.

Similarly, section 405 now contains only general language stating that recycling requirements shall be as protective as those applicable under existing Subtitle C. A more explicit approach is needed, specifically one that establishes a presumption that equivalent measures are to be adopted unless EPA demonstrates that particular provisions can be less stringent for recyclables without compromising protection of health and the environment. Moreover, Congress must clearly disallow any consideration of "stigma" as a basis for weakening of management standards.

More fundamentally, the regulatory provisions specified in new subsection 3004(y)(1) appear to be significantly less comprehensive than existing standards. In particular, what justification is there for allowing EPA to establish less rigorous standards for secondary materials with regard to corrective action and financial responsibility? These concerns are further magnified by subsection 405(d), "Applicability of Other Sections," which appears to have the effect of allowing hazardous secondary materials to evade existing RCRA requirements governing monitoring and testing (RCRA section 3013), expansions of interim status facilities (potentially relevant for facilities newly brought within the scope of Subtitle C) (RCRA section 3015), and export of hazardous waste (RCRA section 3017, a provision that itself is far too weak at present). Likewise, as section 405 is now structured, it is far from clear that placement of hazardous secondary materials in surface impoundments would be disallowed, or that such impoundments would be required to meet the minimum tech-

<sup>2</sup> We are also concerned that section 405 embraces the existing regulatory definitions of closed loop and direct reuse despite some shortcomings in those terms. For example, EPA currently does not require tanks in (nominally) closed-loop systems to have tops. See 51 Fed. Reg. 25422, 25443 (July 14, 1986).

nology standards of section 3004(o). This listing of anomalies is by no means necessarily complete.

EDF believes that it is far preferable to provide that hazardous secondary materials are "deemed" to be hazardous waste for all purposes of RCRA (including its implementing regulations) except insofar as EPA promulgates specific alternate regulations for recyclables.<sup>3</sup> Because of RCRA's substantial complexity, section 405 as now crafted is altogether too likely to create unintended ambiguities and loopholes—not the desired objective after a decade of litigation on EPA's regulatory jurisdiction.

In addition, EPA's authority to promulgate recycling regulations seems alarmingly open-ended. There are no limits on the types of units that may be categorized as "recycling" facilities. EPA has repeatedly shown itself capable of interpreting statutory terms in remarkable ways that undercut the regulatory system and allow for environmental harm. If the committee continues to pursue this approach, a clearer delineation of what counts as a recycling facility must be included.

Finally, we strongly oppose section 405's sweeping reliance on permit-by-rule provisions for a wide range of recycling facilities. Permits by rule may make sense for a few types of relatively simple facilities, such as tanks and containers without significant on-site contamination. Because a permit-by-rule involves a lower level of governmental and public oversight than a full permit, however, such permits should be available only for facilities that are demonstrably unlikely to be causing problems now or in the future—namely double-walled tanks or lined container storage areas equipped with leak detection devices. Similarly, there should be limits on the quantities of materials held at a single location under a permit-by-rule.

In sum, while we support section 405's objective of clarifying EPA's jurisdiction over recyclables, we believe that the mechanisms included in the section may well yield an unprotective regulatory system for materials that, by definition, would be hazardous wastes if discarded. Such a development would not only allow hazardous secondary materials to be handled in ways posing risks to health and the environment, but would also undercut RCRA's ability to provide incentives for toxics use reduction.

### *C. Analysis of S. 982*

EDF commends Senator Chafee for his leadership in developing an alternate approach on this difficult issue. In our view, the general approach taken by S. 982—namely amending the definition of "solid waste" to expressly include materials that are "recycled," and providing detailed definitions of the term "recycle" and its constituent terms—is a potentially useful mechanism for clarifying the jurisdictional issue.<sup>4</sup>

Ultimately, however, the key question is how hazardous recyclables are regulated. On this point, S. 982 offers two important advantages over section 405 of S. 976. First, S. 982's permit-by-rule provisions are more narrowly crafted in that they pertain only to facilities that "store and recycle hazardous waste in fully enclosed tanks or containers." As noted above, such a limitation is essential in a permit-by-rule context.

In addition, S. 982 appears to require use of fully enclosed systems in the closed loop context as well, by referring to "enclosed means of conveyance." (However, we strongly urge that this language be clarified to indicate that any tanks employed in closed-loop systems must also be fully enclosed.)

### III. ADDITIONAL ISSUES RELATING TO THE OVERALL SCOPE OF RCRA SUBTITLE C

The status of hazardous secondary materials is part of a bigger problem: the severely limited scope of what substances are covered. Most Americans today assume that a waste that is hazardous is regulated by the Federal hazardous waste program. As the saying goes, however, it ain't necessarily so. Many materials have remained unaddressed, not because they are demonstrably nonhazardous but rather because EPA has never gotten around to assessing them. In addition, EPA has so broadly construed the domestic sewage exemption that hazardous industrial waste can be commingled with domestic sewage and sent to a treatment plant without regard to whether that facility can in any way reduce the toxicity of the constituents that define the waste as hazardous. Both of these points are elaborated on below.

<sup>3</sup> Alternatively, the term "or hazardous secondary material" could be inserted after each use of the term "hazardous waste" throughout the statute.

<sup>4</sup> As indicated in discussion section 405, however, EDF does not believe EPA should be required to promulgate a comprehensive new set of regulations for recycling facilities.

### *A. The Universe of Wastes Now Regulated as Hazardous*

Under the current RCRA program, wastes fall into one of two categories: those that are "hazardous," and everything else. The former are subject to an array of controls under RCRA Subtitle C governing their handling from "cradle to grave;" the latter are at present virtually unregulated (though they are nominally subject to Subtitle D). A particular waste-stream becomes regulated under Subtitle C only if EPA either lists the waste, or if EPA identifies a characteristic that the waste-stream exhibits.

EPA data indicate that, of the roughly 11 billion tons of solid waste produced in the United States each year, about 1.3 billion tons—just over 10 percent of the total—qualifies as listed or characteristic waste.<sup>5</sup> Although available data are not precise, it appears that less than a quarter of that amount is managed under RCRA-regulated units, with the remainder mostly exempt as being subject to management under the Clean Water Act.<sup>6</sup>

If the wastes now regulated as hazardous were the only ones that indeed presented a hazard, then this situation would not be problematic. Unfortunately, however, it is clear that a substantial number of additional wastes may present a hazard if mismanaged and thus should be regulated. The precise size of this number is very difficult to calculate; as the U.S. General Accounting Office observed, "EPA does not know if it has identified 90 percent of the potentially hazardous wastes or only 10 percent. . . ."<sup>7</sup>

To date, EPA has listed approximately 125 waste streams; those lists—known as "F" and "K" wastes—are found at 40 C.F.R. 261.31 and 261.32. Once listed, not only the waste itself but also any material "derived from" the waste or "mixtures" containing the waste are deemed to be the listed waste. In addition, EPA has designated approximately 600 commercial chemical products as being hazardous wastes when discarded on its "P" and "U" lists. However, those listing generally apply only when the pure products are discarded in lieu of their intended use; remarkably, even a mixture comprised solely of various chemicals that are individually found on the "P" or "U" list is not defined as hazardous.

EPA has also promulgated four "characteristics" for identifying hazardous wastes, namely ignitability, corrosivity, reactivity, and toxicity. For each characteristic, EPA has established properties, generally in the form of a prescribed testing protocol.<sup>8</sup> If the waste is tested and exceeds a threshold specified in the protocol, it is said to exhibit that characteristic.

Although the term "toxicity characteristic" sounds reassuringly comprehensive, the existing characteristic is in fact extremely limited: it covers only eight metals, six pesticides, and 25 organic compounds. 40 C.F.R. 261.24. Moreover, the relevant test protocol uses a leaching procedure that measures the amounts of these constituents that dissolve when the sample is mixed with a dilute acid. The waste qualifies as hazardous if any constituent is present above a defined threshold level (set separately for each substance, and equal to 100 times the current drinking water standard or other level of concern).

Given that only 39 substances are covered by the toxicity characteristic, it obviously fails to capture a large number of wastes that in fact pose a significant hazard. Further, the leaching test is based on an unverified model, and it ignores all

<sup>5</sup> EPA/OSWER, Report to Congress: Solid Waste Disposal in the United States (EPA/530-SW-88-011), Vol. 1, p. 11 (October 1988). The estimated annual total of 11 billion tons includes approximately 7.6 billion tons of industrial nonhazardous waste; between 2.0 to 3.6 billion tons of oil/gas wastes; over 1.4 billion tons of mining wastes; about 160 million tons of municipal solid waste; 85 million tons of utility waste; over 32 million tons of construction/ demolition debris; and a variety of other categories of materials. *Id.* (EPA subsequently revised its estimate of municipal solid waste generation to 180 tons.)

<sup>6</sup> In 1988, EPA stated that 275 million metric tons (MMT) of waste were managed as RCRA hazardous waste, and that another 300 MMT that qualified as RCRA hazardous (i.e., met a listing description or exhibited a characteristic) was managed under the Clean Water Act exemptions to RCRA. EPA/OSWER, *The Waste System* (Nov. 1988), p. 1-5. In issuing the final organic toxicity characteristic in March 1990, EPA estimated that about 730 MMT of waste would qualify as hazardous under the expanded characteristic, but that virtually all would be managed as RCRA-exempt.

<sup>7</sup> GAO, "EPA Has Made Limited Progress in Determining the Wastes To Be Regulated" (GAO/RCED-87-27), p. 19 (Dec. 1986).

<sup>8</sup> This is an oversimplification of a complex area. Some of the complexities arise because, for some characteristics, the relevant properties are less-than-precisely defined. For example, the characteristic of reactivity is exhibited if the waste "is normally unstable." Other characteristics and properties are more objective (e.g., corrosive wastes are those with pH below 2 or above 12.5 in aqueous form).

exposure pathways other than groundwater contamination (e.g., air dispersal of volatiles and particulates, contamination of surface water, etc.)

Even in 1984, Congress was quite distressed at the narrowness of the universe of hazardous wastes as defined by EPA. Accordingly, in the 1984 Hazardous and Solid Waste Amendments (HSWA) to RCRA, Congress set a series of deadlines for EPA action to expand the universe of wastes regulated as hazardous. Specifically, HSWA establishes dates by which the Agency was to determine whether or not to list a number of particular wastes, and to established additional hazardous waste characteristics. The Agency has missed virtually all of those deadlines.

In early 1989, EDF sued EPA over a number of unmet deadlines, including a number relating to the HSWA listing mandates.<sup>9</sup> *EDF v. Reilly*, No. 89-0598 (D.D.C., filed March 8, 1989). In response, EPA largely admitted its liability and asked the court to adopt a schedule that would defer compliance with some of the deadlines as late as 2004—two decades after HSWA's enactment. The court declined to adopt EPA's proposal. Subsequently, the court ordered EPA to complete certain tasks within months. The parties then entered into lengthy negotiations regarding the remaining issues in the case, and have recently submitted a proposed consent decree to the court requiring EPA to complete most activities within the next few years. The parties are still litigating one issue, namely whether EPA's obligation to promulgate additional characteristics was satisfied by addition of the 25 organic constituents to the toxicity characteristic in March 1990.

As this suit and similar proceedings make all too clear,<sup>10</sup> simply enacting deadlines without hammers is a bankrupt strategy for securing prompt regulatory action. Indeed, materials obtained during the litigation demonstrate that EPA officials expressly instructed staff to abandon work on many listing determinations shortly after the statutory deadline had come and gone. Clearly, EPA simply ignores statutory deadlines, at least until those deadlines are embodied in a consent decree enforceable through judicial contempt proceedings. By contrast, however, EPA met most statutory deadlines for provisions that carried "hammers," such as those requiring establishment of pre-disposal treatment standards for land-disposed wastes.

The lesson is clear: if Congress wants action, action-forcing provisions are necessary.

One particular area cries out for inclusion of such provisions, namely promulgation of additional characteristics dealing more comprehensively with toxicity. Fortu-

<sup>9</sup> The so-called "mega-deadline" suit involves EPA's failure to carry out a number of separate mandates, including the following:

\* *Undertake listing determinations*—determine whether to designate 16 classes of wastes as hazardous (some determinations have been issued by EPA during the litigation, largely in response to court orders);

\* *Issue additional characteristics*—issue regulations expanding the characteristics identifying wastes as hazardous (one additional characteristic, the Toxicity Characteristic Leaching Procedure, issued under court order on March 8, 1990);

\* *Promulgate restrictions on disposal of liquids in landfills*—such restrictions are needed because of the contribution of liquids to formation of leachate, which contributes to groundwater contamination;

\* *Issue "land disposal restrictions" for certain listed wastes*—as part of the program to ban disposal on land of untreated wastes, EPA must set pre-disposal treatment standards for wastes listed as hazardous since HSWA's enactment;

\* *Issue regulations requiring use of leak detection systems at landfills*—such systems allow prompt detection of leaks from landfill liners, before off-site migration occurs;

\* *Issue regulations for industrial boilers and furnaces that burn hazardous waste*—such regulations, which apply to several hundred facilities, were issued under court order in December 1990 (and were subsequently challenged as unprotective by several environmental groups);

\* *Issue post-closure permits to certain facilities*—such permits require groundwater monitoring, security measures, etc., for 30 years after closure of facilities that closed with wastes still present on site.

<sup>10</sup> The "megadeadline" suit was by no means the first time that EDF has had to take recourse to the courts to secure EPA's compliance with congressional mandates under RCRA. See, e.g., *EDF v. Dietrich*, No. 78-1715 (D.D.C., Nov. 13, 1981) (order setting schedule compelling agency to promulgate RCRA regulations); *EDF v. Thomas*, 627 F. Supp. 566 (D.D.C. 1986) (order setting schedule compelling agency to issue final permitting standards for underground waste tanks); see also *EDF v. Thomas*, No. 86-1334 (D.C. Cir., Dec. 17, 1986) (entry of settlement agreement containing schedule for revising reporting requirements for small quantity generators); *EDF v. EPA*, 716 F.2d 915 (D.C. Cir. 1983) (awarding attorneys fees where EPA, during litigation, reinstated RCRA reporting requirements as sought by EDF in suit). EDF has also successfully challenged EPA's illegal suspension of RCRA regulations already promulgated. See *EDF v. Gorsuch*, 713 F.2d 802 (D.C. Cir. 1983) (regarding permits for surface impoundments and incinerators). More recently, EDF successfully challenged EPA's withdrawal of proposed RCRA regulations listing six waste streams as hazardous. See *EDF v. EPA*, 825 F.2d 1318 (D.C. Cir. 1988).

nately, existing regulations in Washington State provide a suitable framework. The Washington toxicity criterion covers many more substances than EPA's existing characteristic, and is not limited to a groundwater-contamination pathway. EDF strongly recommends that Section 3001 be amended to incorporate such an approach as a matter of law, to take effect within a set time after enactment. A brief summary of the Washington approach is included as Attachment A.

#### *B. The POTW/NPDES Exclusion*

As indicated above, a large fraction—well over half—of all wastes that qualify as hazardous (either by meeting a listing description or exhibiting a characteristic) are nonetheless not managed under RCRA. This anomaly arises in part because RCRA's definition of solid waste excludes "solid or dissolved material in domestic sewage." 42 U.S.C. 6903(27). EPA has chosen to interpret this exclusion broadly, to extend also to mixtures of industrial (including hazardous) wastes and domestic sewage that pass through a sewer to a public owned treatment works (POTW) for treatment. 40 C.F.R. 261.4. Also excluded from RCRA are discharges that are "subject to" NPDES permits issued under the Clean Water Act; such permits govern discharges from industrial facilities that put effluent directly into waterways.

In theory, this approach avoids duplication of regulation under RCRA and the Clean Water Act. In practice, however, it suffers from a fatal flaw: the RCRA exemption has been applied whether or not the NPDES permit contains a limit for the particular RCRA contaminants of concern; whether or not the POTW is capable of treating those contaminants; and whether or not an enforceable pretreatment standard applies to all wastes discharged to the POTW.

In particular, there is no mechanism for ensuring that the RCRA-exempted wastewaters at a particular industrial facility are in fact adequately dealt with by that facility's use of appropriate pretreatment before the waste is discharged into the POTW system. As a result, very large volumes of wastewater may escape regulation as a practical matter. The scope of this problem is suggested by the fact that over 90 percent of the wastes that are regulated under RCRA are in the form of wastewaters.<sup>11</sup>

EDF urges the committee to adopt amendments limiting the exemption to its rationale—so that the exemption from RCRA applies only where the constituents that cause a waste to be hazardous are in fact adequately handled under Clean Water Act regulations. Such a result could be accomplished at least in part by requiring that industrial hazardous wastes meet existing pre-disposal treatment standards (already promulgated in 40 C.F.R. section 268 for most wastewaters) unless a pretreatment standard applicable to that wastestream has been timely promulgated and revised as required under the Clean Water Act.

#### IV. ADDITIONAL FLAWS IN THE SUBTITLE C SYSTEM

In addition to fundamental shortcomings in the scope of Subtitle C noted above, there are numerous problems with the management standards themselves. This portion of our testimony briefly outlines a few of more egregious, but it is by no means a complete list.

One severe limitation of the current system is that generators are not affirmatively required to test their wastes; instead, they may determine whether a waste is hazardous either by applying an approved test method or by "[a]pplying knowledge of the hazard characteristic of the waste in light of the materials or the processes used." 40 C.F.R. 262.11(c). The generator is not required to document in any way the basis for concluding that a waste is nonhazardous. As a result, ensuring legitimate determinations of hazard is extremely difficult, as is prosecution of enforcement actions.

Another major problem is found in EPA's proposed corrective action regulations for cleaning up contaminated RCRA sites. Under the 1984 RCRA Amendments, facilities must clean up all leaks at a site before they can receive a final permit for a hazardous waste treatment, storage, or disposal unit; EPA was directed to issue regulations governing such "corrective actions." RCRA section 3004(u). Under heavy pressure from the Office of Management and Budget (which delayed release of the proposed regulations for over 18 months), EPA included a number of dubious provisions in the proposed rules. 55 Fed. Reg. 30793 (July 27, 1990). Taken together, those provisions would create a system under which many facilities could defer cleanup for literally decades, avoid ever cleaning up wastes as long as they remain within the facility boundaries, and/or undertake poor quality cleanups.

<sup>11</sup> EPA/OSWER, *The Waste System*, at 1-14 (Nov. 1988).

Similarly, in "delisting" wastes, EPA both ignores important risks and undercuts other key programs such as pre-disposal treatment standards and "clean closure" requirements. See Florini, Denison, and Rathbun, "EPA's Delisting Program for Hazardous Wastes: Current Limitations and Future Directions," 19 *Environmental Law Reporter* 10558-10568 (Dec. 1990).

Numerous shortcomings also exist in standards established under the pre-disposal treatment program and in controls over facilities that burn hazardous waste (whether for destruction, energy recovery, or materials recovery).

#### CONCLUSION

In sum, the nation's program for controlling hazardous secondary materials continues to suffer from an array of weaknesses, weaknesses that will preclude our society from reaching RCRA's objectives of "promot[ing] the protection of health and the environment . . . [and] assuring that hazardous waste management practices are conducted in a manner which protects human health and the environment . . ." 42 U.S.C. § 6902(a) & (a)(4).

While the existing regulatory system is complex, those complexities must not be allowed to obscure the need for additional improvements during the reauthorization process. EPA's deplorable record of recalcitrance in meeting congressional mandates for regulatory action, along with numerous examples of lax and unprotective interpretations of statutory language when regulations finally do emerge, demonstrates that this Committee must act to significantly strengthen the Subtitle C program.

We appreciate this opportunity to testify.

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#### PREPARED STATEMENT OF SAMUEL GOLDBERG

Mr. Chairman: My name is Samuel Goldberg. I am president of Inco United States, a subsidiary of Inco Ltd., the world's largest nickel producer. One of our subsidiaries, INMETCO, located in Western Pennsylvania, recycles wastes and secondary materials from the specialty steel industry.

I am here today as co-chairman of the Business Recycling Coalition, an ad hoc group of over 45 individual firms and trade associations involved in industrial recycling. Our members engage in a variety of recycling activities but share one common goal: the regulation of industrial recycling as recycling and not as waste treatment and disposal.

Recycling is an industrial process, not a form of waste treatment, and it should be regulated under a separate regime that takes account of its special features and conditions. Materials intended for industrial recycling are input raw materials for industrial processes. They are not destined for disposal and should not be defined as waste. The essence of recycling is that it recovers or diverts key components—e.g., metals, paper, plastics—from the waste stream, restoring them as feedstocks to the commercial mainstream. The environmental benefit of recycling needs no elaboration. Surely, it is an activity that should be encouraged. Unhappily, it is not being encouraged; it is being throttled. We are very grateful, therefore, for your efforts to enact significant improvements in the current Resource Conservation and Recovery Act.

Let me be clear at the outset: We do not seek to escape regulation. We are here to testify in support of a stern regulatory regime, one that fully protects human health and the environment—but a regime that is designed for industrial recycling rather than for waste treatment and disposal.

Let me also emphasize at the outset that we share your views regarding "sham" recycling, the aim of which is to treat or dispose of waste materials without incurring the costs or regulatory obligations of waste treatment and disposal. We have the same interest as Congress and the EPA in assuring that treatment and disposal operations masquerading as industrial recycling are regulated as what they are and for what they actually do.

Finally, let me make it clear that we have no quarrel with the concepts of waste minimization and zero discharge where those are feasible. When all is said and done, however, industrial processes will continue to generate secondary materials and waste products, including some that are hazardous. So there will continue to be a need for industrial recycling and the environmental and economic benefits that it provides. Unlike municipal recycling, where the market may need to be developed, the volumes involved in industrial recycling are already huge—at least 110 million tons annually in 1989/90, the most recent years for which we have the data. In our opinion, the same enthusiasm that is being displayed for municipal recycling ought to be focused on industrial recycling.

We are gratified, Mr. Chairman, by the interest members of the subcommittee have taken in improving RCRA so as to truly encourage resource conservation and recovery. We have held serious discussions with the majority and minority staffs, as well as with the staffs of subcommittee members about your bill, S. 976, Senator Chafee's bill, S. 982, and Senator Warner's bill, S. 1473. We appreciate the attempt made in each case to recognize that industrial recycling deserves to be addressed through a tailored regulatory regime. Frankly, we much prefer the clear-cut approach taken by Senator Warner through a separate subtitle for industrial recycling. However, we've also responded to staff requests for suggestions on how our basic ideas could be accommodated under the other bills. Let me now discuss our major concerns about those bills.

#### COMMENTS ON S. 982, THE CHAFEE BILL ON HAZARDOUS WASTE RECYCLING

S. 982 does not establish a separate regulatory regime for recycling. Instead, the effect of Sections 2 and 3 of the bill is to classify recycling of hazardous materials (except for closed loop recycling and direct reuse) as hazardous waste management. The result is to aggravate the problem already confronting legitimate industrial recyclers because of (1) the reach of the "derived from" rule and (2) the application to recycling of requirements designed for and appropriate to waste treatment and disposal.

*"Derived From" Rule:* Because of the "derived from" rule, residues from the recycling of so-called "listed" (i.e., specially designated) hazardous wastes are themselves regarded as hazardous, whether or not they exhibit any hazard characteristics identified by EPA's standard tests. Recycling by reclamation typically removes and recovers many of the metals or other ingredients responsible for the original listing of the feedstock material as a hazardous waste and also alters the physical and chemical properties of the material. Nevertheless, residues from reclamation are subject to classification as hazardous on the basis of their parentage, even if they are able on their own merits to pass EPA's hazardous waste characteristic tests.

The consequences of the "derived from" rule are both economic and environmental. The difference between being able to use recycling slags as roadbed, for example, and having to bury them in a hazardous waste landfill may be enough to make recycling uneconomic. Furthermore, if one accepts the view (as expressed in the Baucus bill, for instance) that recycling has advantages—that it conserves valuable resources, limits demand for virgin materials and the pollution that goes with meeting that demand, saves energy, keeps hazardous materials out of the waste stream, and preserves scarce treatment and disposal capacity to meet other needs—then public policy should not be skewed to discourage recycling, as we believe would be the case under S. 982.

Existence of the "delisting" process is sometimes suggested as the answer to the problem of the "derived from" rule. The trouble with this solution is that delisting can easily take several years, requires many thousands of dollars in legal, laboratory, and other fees, and needs to be repeated every time the composition of the residues undergoes significant change. Delisting may look good in theory, but in real life it is simply not a viable option.

We want to be clear: we are not suggesting anything that would permit hazardous residues to be classified as benign. We are asking that residues be judged on their own merits and managed accordingly. If the residues are hazardous, they should certainly be subject to hazardous waste management rules. If they are not hazardous, however, they should not be so classified merely because the feedstocks for the recycling process may have included hazardous materials.

Recycling/reclamation should be dealt with under the law like other manufacturing processes. Residues such as slags, which are essentially indistinguishable from slags of primary metals production, ought to be subject to similar requirements based on their actual hazard characteristics. Definitions which maintain the "derived from" rule will prevent realization of the economic and environmental advantages of recycling.

*Application of Treatment/Disposal Requirements to Recycling:* Defining recycling as a form of solid or hazardous waste management effectively applies to industrial recycling rules designed for waste treatment and disposal. This approach rests on a mistaken premise and leads to a perverse result.

The mistaken premise is that an operation which reclaims hazardous materials presents the same environmental risk as hazardous waste treatment/disposal. But, in fact, there is a substantial difference between burying hazardous material forever in acid soil, as might happen in the case of hazardous waste treatment/disposal, and processing that same material to separate constituents for reuse. The correct analo-

gy is not between recycling and hazardous waste treatment but between recycling and primary manufacturing that employs a hazardous feedstock.

The perverse result of subjecting recycling to the wrong rules is that hazardous materials which could be recycled go instead to landfills, creating environmental risk. It is a simple matter of economics. Stringent regulation of waste treatment and disposal, while necessary, adds costs that are passed directly back to the generator of the waste. The generator must either pass on the higher costs to his customers or reduce the volume or toxicity of the waste he generates. Recycling works by a different price and incentive mechanism. Secondary materials will be recycled only if they are price-competitive with virgin materials, and only if it is cheaper for the generator to send them for recycling than to send them for treatment/disposal. Imposition of regulatory costs that bear no relation to the environmental risk of the recycling process itself simply means that there will be less recycling.

One of the reasons that has been advanced for taking this approach is the "equity" argument: the contention, advanced primarily by the Hazardous Waste Treatment Council, that fairness somehow dictates that industrial recyclers should be subject to the same set of requirements as members of the hazardous waste treatment and disposal industry.

We believe this argument is completely without merit. The real issue is not equity but environmental public policy.

*The Stigma Problem:* A further effect of the definitional approach taken by S. 982—even if an escape from the "derived from" rule were to be devised by EPA in the rules allowed under Section 4—is that it leaves in place the stigma attached to "hazardous waste" recycling. Although slags from "hazardous waste" recycling may be indistinguishable from slags from primary metals production, users such as State highway departments may find it difficult politically and not worth the hassle to employ residues of "hazardous waste" recycling on State roads. Defining recycling as a branch of "hazardous waste" management will thus have important market consequences.

This is among the reasons why we are urging Congress to adopt a separate regulatory regime for industrial recycling. Again, we are not asking to be relieved of regulation. Quite the contrary. Some of the rules that currently apply to hazardous waste management—standards for storage and transportation, recordkeeping requirements, provisions to prevent speculative accumulation, etc.—should certainly apply to recycling. What we are urging is a regulatory regime that is appropriate to recycling—not one designed for another purpose.

*T3Guidance to EPA:* Section 4 of the bill contemplates promulgation by EPA within 12 months of enactment of requirements for hazardous waste recycling facilities (not exempted as closed-loop processes or direct reuse processes). It proposes a new subsection (y) on recycling standards as an amendment to Section 3004 of RCRA. Provision (1) of that new subsection would say that "such requirements should address the particular needs and unique operations of certain recycling facilities."

This provision fails to offer any indication to EPA that recycling is to be encouraged or any suggestion as to what are the "particular needs and unique operations" of various types of recycling. In view of the cross-reference to subsection 3004(a) in new subsection 3004(y), it is questionable whether the "particular needs" language would have any practical effect.

#### COMMENTS ON S. 976, THE BAUCUS BILL REAUTHORIZING RCRA

In general, the Business Recycling Coalition applauds the recognition of recycling in section 102(e), the national policy declaration, as a priority after toxics use and source reduction in the hierarchy of approaches to waste management. At the same time, we are disappointed by the failure of S. 976 to establish a clearly delineated separate regulatory regime for industrial recycling.

*Imposition of Treatment/Disposal Rules:* Materials sent for recycling and reclamation are never intended for disposal. Indeed, in the course of defining "secondary materials" and "hazardous secondary materials," S. 976 acknowledges "the fact" that a secondary material destined for recycling "is not discarded." Nevertheless, S. 976 provides for the regulation of recycling as a subcategory of waste treatment and disposal.

The result is to impose a set of regulations devised for the treatment and disposal industries on an industry that is really engaged in industrial operations similar to those performed by producers of primary materials. A number of consequences flow from this method of classification, some of which have already been discussed in connection with the Chafee bill. Although they are different in their approach, both



bills seek—mistakenly in our opinion—to regulate industrial recycling as a subcategory of waste management.

The Business Recycling Coalition has proposed the enactment of a separate legislative title for recycling that would impose rules appropriate to recycling in place of rules designed for another purpose. While we understand the concerns of the sponsors of S. 976, we believe they can be met by a separate subtitle. The issue is one of legislative reach versus regulatory overreach. We believe that, while it may be intended to deal with this issue, S. 976 also overreaches.

*Differences Between Municipal and Industrial Recycling:* The basic framework of Title III, the recycling title, is skewed by the drafters' focus on municipal recycling, which faces different problems than those facing industrial recycling. The main problems for municipal recycling are on the demand side. The main problems for industrial recycling of both non-hazardous and hazardous materials are on the supply side: technologies and costs. We believe that adoption of regulations appropriate to industrial recycling, as distinguished from regulations appropriate to waste treatment and disposal, will be enough to reduce costs and encourage the development of new and improved recycling technologies. While we would not object to programs for Federal procurement of recycled materials or other steps to encourage market development, that is not the major need on the industrial side. The market is there if the costs can be controlled and if the technologies can be improved.

*Failure to Consider Environmental Benefits:* Section 405 establishes the statutory framework for regulating industrial recycling of both hazardous and nonhazardous secondary materials. While theoretically intended to distinguish recycling/reclamation from waste treatment/disposal, Section 405 falls well short of creating a separate and appropriate regulatory regime for recycling. Thus, Section 405(a), which amends Section 3004(a) of RCRA, appears to provide for the regulation of all forms of industrial recycling as waste management and disposal.

The new subsection 3004(y), which follows, calls for the promulgation of requirements for recycling needed "to appropriately encourage environmentally sound recycling by addressing the particular needs and unique operations of certain recycling facilities." Sounds good. But the EPA Administrator is instructed in the next sentence to promulgate requirements for recycling that "protect human health and the environment to the same degree" as requirements "applicable to the transfer, storage or disposal of hazardous waste." The difficulty with this language is that it invites endless litigation. It could be interpreted to mean that unless each and every requirement for the transfer, storage and disposal of hazardous waste is applied to the recycling of secondary materials and unless these requirements are as stringent in the latter case as in the former, the recycling regulations will be unlawful. We have no doubt that the hazardous waste treatment industry will make precisely this argument. And the courts might agree, vitiating the fine words in the legislation about recycling.

We certainly believe that recycling needs to be regulated in a way that protects human health and the environment. But the test must not be framed in terms of a simple-minded comparison between the regulatory requirements applicable to the treatment/disposal of hazardous wastes and those applicable to industrial recycling. Such a comparison ignores the environmental (as well as economic) benefits of recycling.

Environmental benefits of recycling include recapture of hazardous constituents (particularly toxic metals) for productive use, diversion of those constituents from the hazardous waste stream, reduction in the burden on scarce land disposal capacity, conservation of natural resources, and avoidance of pollution and fossil fuel consumption associated with mining and refining of virgin materials. The economic benefits are obvious.

Congress ought to remember that hazardous waste treatment/disposal means more hazardous constituents going into landfills, not fewer. It means more waste dumps. It means more mining, more refining, more burning of coal and oil. Its also means wasting natural resources and commercially valuable secondary materials.

That is what's potentially at stake. Protection "to the same degree" may translate into the same requirements for recycling as for hazardous waste treatment, thus driving out recycling—with a net loss to the environment as well as to the economy.

*"Minimum Requirements":* In addition to inappropriately comparing recycling requirements with treatment/disposal requirements, Section 405 also establishes certain "minimum requirements" that are inappropriate or problematical for recycling operations.

An example is subsection 3004(y)(1)(C) (p. 114, lines 24-25) which requires that the "derived from" rule be applied to any slag or residue of a recycling operation. While what's intended is not entirely clear, this language appears to mean that metals rec-

lamation slags must be regulated as hazardous wastes, even though they exhibit no hazard characteristics, if any material processed at the reclamation facility was a listed hazardous waste. As pointed out in the discussion of the Chafee bill, application of the "derived from" rule is a principal impediment to recycling, and "delisting" procedures do not overcome this impediment. Failure of S. 976 to address this problem is a critical failing of the legislation.

Application of corrective action and financial responsibility requirements to all recycling facilities, as contemplated in this section, may also be inappropriate, at least if the intent is to subject recycling facilities to the same corrective action requirements as hazardous waste treatment/disposal facilities. At the EPA conference on the definition of solid waste held in Richmond, VA, in December 1990, one speaker pointed out that his firm was engaged in recycling on a large site that had been in use by various parties for more than 100 years for a variety of activities, including mining and refining. He stated that, while his firm might be able to live with a corrective action requirement limited to releases from the current recycling operation, it would be very difficult for the firm to continue operating as a recycler if corrective action and associated financial responsibility requirements were to be applied to the entire property.

**Permit By Rule:** The permit-by-rule requirements of subsection 3005(k) (pp. 117-118) are also troubling. For one thing, the provision is unclear. What would a facility owner/operator have to do to "demonstrate" that his facility "is in compliance with all applicable standards and requirements of law"? Is this intended to refer to applicable standards and requirements under RCRA? Under all Federal statutes? Under all State statutes as well? How can such a demonstration be made? If cited for a single OSHA violation or a minor State right-to-know infraction, would the facility be unable to get a permit?

What happens if a facility does not qualify for a permit by rule? Does it have to get an individual permit, or would it be sufficient to comply with the requirements of Section 3004(y) as amended?

Why does the amended subsection 3005(k)(4)(B) block the issuance of a permit by rule to a class of facilities if any single facility in the class has the potential to do significant damage to human health and the environment? Why not simply make that single facility ineligible for inclusion?

**Stigmatizing Provisions:** Various other provisions in Section 405 continue the problem of stigmatizing industrial recycling as hazardous waste management. See, for example, the public notice and comment requirements in subsection 3005(k)(2), the language in section 405(d) at the bottom of page 118 and the top of page 119, and the recycling standards provisions of subsection 4012 beginning on page 119. We have addressed the stigma problem in our discussion of S. 982 and will not repeat our concerns here, other than to point out that stigmatizing industrial recycling tends to stimulate public resistance to activities that are more like primary industrial operations than they are like hazardous waste treatment and disposal.

**A Better Alternative:** The Business Recycling Coalition has wrestled with these issues for several years. Accordingly, we have drafted language which (1) more clearly recognizes the distinction between waste treatment/disposal and legitimate industrial recycling and (2) establishes a regulatory regime that encourages desirable recycling activities while ensuring that human health and the environment are adequately protected. A copy of that alternative is attached. We believe that it represents a better alternative, and we respectfully commend it to this subcommittee.

**"Sham" Recycling:** A question that we have repeatedly been asked is how the Business Recycling Coalition proposal would deal with the so-called "sham" recycling phenomenon—i.e., hazardous waste treatment/disposal masquerading as legitimate industrial recycling. The key to identifying legitimate recycling lies in the definitional criteria for the term "reclamation." These include specifications related to the process, specifications related to the product, handling so as to minimize loss, return to commercial use, and the requirement that the use of the product may not solely involve land application.

What these criteria mean is that the inputs to the recycling process must meet process engineering standards and the product(s) of the process must meet commercial standards. There must be some commercial value to the activity over and above the value assigned to a haul-away, treatment and disposal operation. In our opinion, no "sham" recycler would be able to satisfy these requirements, and EPA should have appropriate authority to enforce them.

Mr. Chairman, we have been meeting not only with committee staff members, but also with various interested parties on these issues, and we've also been talking to officials at the Environmental Protection Agency. We will continue to do that. Let me emphasize that we are at your service and stand ready to work with the subcom-

mittee during markup, as you seek to develop language that will accommodate legitimate industrial recycling while protecting human health and the environment. Thank you for this opportunity to testify.

#### RESPONSES TO QUESTIONS FROM SENATORS BAUCUS AND CHAFEE

This paper responds to a number of questions posed by Senators Baucus and Chafee in their letter of August 29, 1991, inviting testimony on behalf of the Business Recycling Coalition at a hearing before the subcommittee on Environmental Protection, scheduled for September 13, 1991. Several of the questions ask for information that EPA, rather than the Business Recycling Coalition, presumably is in a position to provide. Nevertheless, for the sake of clarity, we will repeat each of the six questions contained in the August 29, 1991 letter from Senators Baucus and Chafee and will answer those which we are in a position to answer.<sup>1</sup>

##### *Question 1:*

Does EPA currently have statutory authority to regulate hazardous waste recycling activities including the recycling process itself? In answering this question, we first must point out the obvious: Industrial recycling is an industrial operation. EPA has the same statutory authority to regulate the recycling of hazardous secondary materials under environmental laws other than RCRA, such as the Clean Air Act and the Clean Water Act, as it has to regulate other industrial activities.

##### *Answer:*

The answer to the question whether EPA has statutory authority under RCRA to regulate recycling activities and the recycling process itself is much less clear. In important respects, the answer is: "It depends." For example, to the extent that a recycling activity generates hazardous waste in the same way that a primary manufacturing process generates hazardous waste, it seems clear that the hazardous waste is subject to EPA's regulatory authority under RCRA in the same way that it would be if it had been generated by a primary manufacturing process. What is less clear is whether EPA's hazardous waste jurisdiction under RCRA extends (i) to secondary materials that are sent for recycling, (ii) to certain by-products and residues that are generated by the recycling process, and (iii) to the recycling process itself.

Numerous questions as to the scope of EPA's RCRA jurisdiction have been presented by definitional provisions in the statute. In particular, EPA and the courts have struggled to give practical meaning to the term "solid waste" in Section 1004(27) of RCRA (which refers to "discarded materials") and to the term "treatment" in Section 1004(34). The narrower the construction placed on these terms, the more recycling activities are deemed to have the same status under RCRA as primary production processes. Conversely, the broader the construction given to these terms, the more recycling activities become subject to RCRA regulation on the same terms as hazardous waste treatment and disposal.

In wrestling with these interpretative issues, EPA has managed to identify some uses of secondary materials that clearly are incompatible with any notion of "discard," so that the recycled material seems clearly to fall outside the definition of "solid waste." Examples are (i) the use of a secondary material as an ingredient in an industrial process to make a product in the absence of reclamation, (ii) the use of a secondary material as an effective substitute for a commercial product, or (iii) returning a secondary material to the original process from which it was generated in the absence of reclamation. Secondary materials used in these ways appear to be outside EPA's statutory authority under RCRA. By the same token, the recycling activities involving such materials would be outside EPA's RCRA jurisdiction.

The status of other recycling activities has been more controversial. A good example of this is the reclamation (e.g., through high temperature metals recovery) of secondary materials that would be hazardous wastes if discarded (e.g., if disposed of in a landfill). The questions (i) whether secondary materials that are reclaimed in this manner are "solid wastes," and (ii) whether the secondary smelting process itself is a production operation that falls outside EPA's RCRA jurisdiction or a waste "treatment" operation subject to EPA's authority under RCRA remain unsettled. Court decisions have not yet provided a final answer to these questions, and EPA itself "is presently studying the question of jurisdiction as part of a compre-

<sup>1</sup> The letter from Senators Baucus and Chafee contains six questions that are numbered from 1 to 5. Two of the questions are preceded by the number 2. We have numbered the six questions consecutively from 1 to 6.

hensive effort to determine if [its] . . . rules on recycling should be amended . . ." See 56 Fed. Reg. 7134, 7143/1 (February 21, 1991).

In sum, under the existing statutory provisions, EPA appears to have authority to regulate some types of recycling activities, seems not to have authority to regulate other types of recycling activities, and may or may not have authority to regulate still others. This uncertainty about the scope of EPA's regulatory jurisdiction under RCRA is a matter that the Business Recycling Coalition believes should be clarified in two respects: First, certain recycling activities and recyclable materials should be clearly excluded from EPA's RCRA jurisdiction, because they are functionally and otherwise indistinguishable from other primary manufacturing processes and commercial use activities.

Second, other recycling activities, including reclamation activities, should be subject to EPA's statutory jurisdiction under RCRA. But that jurisdiction should be separately defined and exercised in the context of a separate regulatory program specifically designed for legitimate reclamation operations. We have submitted a proposal on how that could be done by adding a new subtitle to RCRA. This approach would remove the jurisdictional uncertainty that now exists by establishing a regulatory regime that is appropriate for legitimate industrial recycling.

#### *Question 2:*

Some owners or operators of recycling facilities have claimed that EPA does not have jurisdiction to regulate their activities because the facility recycles a secondary material or other material that was never intended for discard and therefore never within the definition of solid waste as currently defined by RCRA. Will S. 976 provide EPA with adequate authority to regulate recycling facilities, including recycling processes, currently escaping regulation under RCRA on the basis that the facilities are recycling a nonwaste material?

#### *Answer:*

S. 976 would clarify that EPA has statutory jurisdiction over secondary materials that are recycled, in addition to those that are discarded. However, as indicated in our written testimony, we do not believe that S. 976 establishes this authority in the most desirable manner. The bill purports to recognize the distinction between the treatment and disposal of hazardous wastes, on the one hand, and environmentally sound recycling of secondary materials, on the other. But the statutory provisions that purportedly are designed to implement this distinction would largely eviscerate it in practice. As indicated in our answer to Question 1 above, the Business Recycling Coalition does not oppose appropriate regulation of reclamation under RCRA. However, for the reasons set forth in our written testimony, we do not believe that S. 976 provides for the establishment of an appropriate regulatory regime.

#### *Question 3:*

In its May 1980 rulemaking on the hazardous waste management system (45 Fed. Reg. 33084 (May 19, 1980)), EPA deferred regulation of the actual use and reuse of hazardous wastes and hazardous waste recycling and reclamation activities. Does EPA plan to issue regulations for these activities and if so when?

#### *Answer:*

Obviously, EPA, not the Business Recycling Coalition, is in the best position to answer this question. We do understand, however, that EPA plans shortly to issue an advance notice of proposed rulemaking that may address certain of these issues.

Before leaving this question, we would hasten to correct what we believe is the mistaken implication that the use and reuse of hazardous wastes, as well as hazardous waste reclamation and recycling activities, currently are not regulated under RCRA. A number of EPA's hazardous waste regulations apply to the use and reuse of hazardous wastes. And various recycling and reclamation activities are regulated, in one way or another, under EPA's RCRA regulations. We agree, however, that there is a need to clarify the scope of EPA's regulatory authority and to design a regulatory regime that is appropriate for industrial recycling.

#### *Question 4:*

S. 982, the Hazardous Waste Recycling Act of 1991, attempts to achieve the same goal as section 405 of S. 976. However, S. 982 attempts to regulate recycling activities by amending the definition of solid waste. What are the benefits and/or drawbacks of this approach?

#### *Answer:*

As discussed at some length in our written testimony, we believe the approach taken in S. 982, which attempts to regulate recycling activities by simply amending

the definition of solid waste, is ill-advised. To be sure, it would remove the uncertainty regarding the scope of EPA's RCRA jurisdiction over the recycling of hazardous secondary materials. (Indeed, as drafted, it would appear to extend EPA's RCRA jurisdiction to the use of virgin materials in primary manufacturing processes.) Unfortunately, S. 982 would eliminate the jurisdictional uncertainty by effectively equating industrial recycling with hazardous waste treatment and disposal. While it anticipates the possibility that EPA might set different requirements for hazardous waste recycling than for hazardous waste treatment and disposal, this almost seems like an afterthought and clearly is not the focus of S. 982. As a result, the approach taken in S. 982 is likely to compound many of the problems already confronting legitimate industrial recyclers.

*Question 5:*

How many sites currently slated for cleanup on Superfund's National Priority List (NPL) were formerly engaged in hazardous waste recycling activities that contributed in some part to the inclusion of those sites on the NPL? Please provide a list of those sites.

*Answer:*

We do not know how many sites currently included on the NPL formerly were engaged in hazardous waste recycling activities. We would not be surprised, however, to learn that a considerable number of former hazardous waste recycling sites found their way on to the NPL, just as a large number of other industrial sites, including many primary manufacturing facilities, found their way on to the NPL.

For the most part, sites have been included on the NPL because of activities that occurred before the hazardous waste regulations under RCRA were adopted and at a time when there were few, if any, restrictions on the handling and disposal of hazardous waste. It is likely that many industrial facilities—including both recycling processes and primary manufacturing operations—stored and/or disposed of hazardous wastes on site in a manner that does not meet current hazardous waste management standards. With hindsight, we know that such uncontrolled storage and disposal of hazardous waste can result in significant environmental contamination, as reflected in the NPL listings.

But the fact that unregulated and uncontrolled disposal of hazardous waste may formerly have occurred at industrial facilities (both recycling and primary manufacturing facilities) that are now listed on the NPL does not mean that hazardous waste recycling facilities today present a greater risk of environmental contamination than primary manufacturing facilities which produce or use hazardous substances and which generate hazardous wastes. Nor does it mean that such facilities will eventually wind up on the NPL unless they are subjected to the full range of requirements that are imposed on hazardous waste disposal operations under subtitle C of RCRA.

To the contrary, the existing RCRA regulations ensure that hazardous wastes generated at a recycling facility, like hazardous wastes generated at a primary manufacturing facility, are managed in a way that will prevent the kind of environmental contamination that caused former hazardous waste recycling and primary manufacturing facilities to be included on the NPL. A hazardous waste recycling facility, like a primary manufacturing facility, cannot dispose of its hazardous wastes on site without complying with the permit and other requirements that apply to hazardous waste disposal facilities. And there is no reason to believe that the recycling process itself presents any greater risk of environmental contamination than a primary manufacturing operation in which hazardous substances are produced or used as a feedstock. The environmental control requirements that apply to such a primary manufacturing operation are also appropriate for a recycling operation that processes hazardous materials.

In short, we believe that the hazardous waste recycling facilities included on the NPL have found their way there for the same reasons that primary manufacturing facilities (such as refineries, chemical manufacturing plants, primary smelters, etc.) have found their way on to the NPL. We also believe that in both cases, existing hazardous waste regulations adequately address the problems that led to the the NPL listings. Accordingly, we do not believe there is any justification for treating a recycling process (and the by-products and residues generated by a recycling process) any differently from the way in which other industrial processes which produce or use hazardous materials (and which generate hazardous by-products or residues) are treated.

We do recognize, however, a justification for establishing special regulatory requirements under RCRA that would apply to hazardous reclaimable materials prior to the time that they actually enter the reclamation process. In our legislative pro-

posal, we have suggested how such a regulatory program could appropriately be structured.

**Question 6:**

S. 976 provides for a permit by rule permitting scheme. Is a more flexible permitting scheme necessary and appropriate for hazardous waste recycling facilities? What are the benefits and/or drawbacks of such a scheme?

**Answer:**

As indicated in our written testimony, we believe strongly that industrial recycling should be regulated separately (and somewhat differently) from hazardous waste treatment and disposal. Accordingly, if a permitting scheme for industrial recycling is necessary (and we are far from persuaded that it is), it certainly should be as flexible and streamlined as possible; otherwise, we may forfeit the myriad environmental and economic benefits of industrial recycling. A "permit by rule" approach can provide some of the needed flexibility and can reduce some of the burdens that more elaborate permitting requirements would impose. Whether it would successfully accommodate the needs of industrial recycling depends in large part on how the "permit by rule" scheme is designed and implemented in practice.

INCO UNITED STATES, INC.  
NEW YORK, NY  
September 30, 1991

Hon. Max S. Baucus  
United States Senate

Chairman, Subcommittee on Environmental Protection, Committee on Environment and Public Works, Washington, DC.

**DEAR MR. CHAIRMAN:**

On behalf of the Business Recycling Coalition (BRC), I want to express sincere thanks for the opportunity to testify on RCRA reauthorization before your subcommittee on September 13. It was a fair and thoughtful hearing of the issues, and I only wish there had been more time to discuss them in greater detail. Let me reiterate our strong desire to work with committee staff to reconcile some of the points of issue discussed at the hearing. We will take the liberty of calling them shortly to this end.

In the meanwhile, in the following paragraphs I would like to supplement my testimony before your subcommittee by responding to certain questions raised in her written testimony by Karen Florini of the Environmental Defense Fund (EDF).

We respect Ms. Florini's views, and though we disagree with many of her positions, we believe that our objectives are really not so far apart. Explicit in her acknowledgment that "recycling of hazardous industrial waste provides important environmental benefits" and also implicit in her rejection of "poor quality recycling" as inferior to "high quality disposal" is a view that corresponds, albeit grudgingly, to that of the Business Recycling Coalition.

And that is that good quality recycling is both desirable and preferable to high-quality disposal. For our part, we certainly favor "good quality recycling" over "poor quality recycling," and we favor the establishment of management standards needed to assure that recycling deserves the "good quality" designation.

Where we profoundly differ with Ms. Florini is over her obvious commitment to a system of regulation that not only fails to give preference to recycling over waste treatment and disposal, but that implies a further bureaucratization of the process. As one of her reasons for opposing a separate subtitle to govern industrial recycling, Ms. Florini observed that EPA does not have, and is unlikely to be given, the staff resources needed to write the regulations. We made the response at the hearing that the bulk of the regulations that would be required under a separate subtitle already exist in the Subtitle C program and that only a relatively small number of newly designed rules would be required. Furthermore, both S. 976 and S. 982 also contemplate that EPA will promulgate new rules for recycling. Thus, there is no substantial difference between those bills and our separate subtitle proposal in that respect.

But the larger point is that if the resources are not available to write the regulations we foresee, where are the resources going to come from to do everything Ms. Florini wants to do? We favor a system under which EPA would establish standards that are, to some extent, self-enforcing—with backup authority for EPA and the States to ensure that the standards are being met. The approach suggested by Ms. Florini would hobble the good recyclers as well as the bad recyclers. Paradoxically, the statutory "hammers" Ms. Florini favors may well result in more nasty stuff going into landfills or into the ambient environment than is already the case.

Industrial recycling consists of three basic stages: the first stage is the management of materials—handling, transportation, and storage—prior to their introduction into the recycling process; the second is the industrial recycling process itself; the third stage involves what happens to the wastes and residues from the recycling process.

In general, we believe that the Business Recycling Coalition and the EDF hold similar views about the standards that should be applied in the first stage—though not about how they should be enforced. That is to say, the BRC agrees that there should be appropriate requirements for the manifesting, transportation and storage of hazardous secondary materials destined for recycling, and we expect these requirements would be quite similar to those that apply to hazardous wastes destined for treatment and disposal. We believe that a notification/certification and record keeping requirement, plus appropriate inspection and enforcement authority for EPA and State regulators, is the right way to assure that these standards are met without excessively encumbering recycling operations. Clearly, EDF wants a more intrusive form of regulation.

With regard to the recycling process itself, our position is that recycling is an industrial process and should be regulated in the same fashion as any other industrial process. EDF clearly wants recycling per se to be regulated but offers arguments that could be applied, as well, to any industrial process involving the utilization or production of hazardous materials. What evidence has EDF supplied that legitimate industrial recycling is more dangerous than other industrial processes? Industrial processes are already regulated, and in the absence of a clear showing that recycling per se creates risks not found in other industrial processes, we see no reason to burden recycling with additional costs. As I testified before the committee, in the real world of our market economy recyclers must compete with suppliers of virgin materials.

With regard to the handling of waste materials from recycling, our position is that hazardous wastes resulting from recycling should be regulated as such. There is no disagreement with EDF on that score. Where we do disagree is on how the residues and by-products of recycling should be determined to be hazardous. Ms. Florini believes that the "derived from" rule should apply to those materials. She also feels that the universe of hazardous wastes should be expanded to include more "listed" wastes. We have no problem conceptually with the notion of EPA listing additional wastes as hazardous, where such actions are appropriate. But we strongly object to automatically deeming by-products and residues of recycling to be hazardous solely because of their parentage even though they exhibit no hazardous characteristics. We need to get away from the all too prevalent assumption that every residue of an industrial process must be treated or buried in a landfill or both.

We also strongly believe that "delisting" is not a viable option. It is costly, can take years, and requires the proving of a negative. It simply does not work.

Let me now respond briefly to the testimony of the Hazardous Waste Treatment Council. The HWTC is misleading the committee when it characterizes a long list of recycling processes as being "unregulated." The fact is that the management of hazardous wastes that are generated or stored at recycling facilities is regulated, and this regulation would continue under our proposal for a separate subtitle. Indeed, our proposal would clarify and extend EPA's authority to regulate recyclable hazardous materials under RCRA.

The HWTC, of course, finds these controls inadequate and wants the actual operation of the recycling process to be regulated as if it were waste treatment and disposal. We don't believe that's appropriate. Indeed, as near as we can tell, the type of regulation the HWTC wants would also apparently fail to be provided under the permit-by-rule approach suggested in S. 976.

We have no specific information on any of the "recycling" examples cited by Mr. Richard Fortuna in his testimony of HWTC's survey of Superfund sites. Clearly, a lot of indiscriminate dumping of hazardous materials took place before the enactment of existing environmental statutes, and some of that dumping no doubt involved "recycling" operations. Even more of it involved primary manufacturing operations. The question before the committee is what's happening now, not what happened 20 years ago. Your task is to write a statute enabling EPA and State authorities to prevent those activities and to penalize anyone evading the law—but a statute that will allow good recycling to flourish and to deliver the environmental (and economic) benefits that recycling makes possible. Please let us work with you toward this end.

Sincerely,

SAMUEL GOLDBERG

## PREPARED STATEMENT OF HON. TOM DASCHLE

Mr. Chairman, I commend you for your efforts to address the complexities surrounding hazardous waste recycling and appreciate this opportunity to offer my comments on this pressing issue.

There has been a great deal of attention paid to so-called "sham recycling" operations whereby some companies have exploited a loophole in Federal law to escape strict hazardous waste disposal standards. While there may be some debate about what constitutes a "sham recycler," there can be little doubt that this is a gray area in Federal law. When dealing with hazardous waste, this gray area presents an immediate threat to the environment and human health. Moreover, the current EPA exemptions for virtually all recycling facilities, legitimate and otherwise, encourage improper management of hazardous waste.

The residents of Sioux Falls, South Dakota, are painfully aware of this fact. In 1989, the water supply of the State's largest city was threatened by the dumping of toxic substances by a waste "recycler." Two intake wells in the city's municipal water wellfield were shut down because of the threat posed by cyanide and heavy metal contaminants dumped by a precious metals manufacturer who is classified as a recycler. Moreover, the city of Sioux Falls and State of South Dakota were forced to battle confusing and vague regulations and definitions relating to both the dumping of hazardous waste and the classification of the polluter and the pollutants that impeded efforts to clean up the environmental damage and deter similar incidents in the future.

The Sioux Falls experience underscores the importance to communities all across the Nation of the discussion before this subcommittee today. I would like to take a moment to discuss the history and implications of the Sioux Falls case.

In January of 1989, local law enforcement officials discovered a "green liquid" floating in ditch adjacent to the company headquarters of Tri-State Mint at C Avenue in Sioux Falls. At the time, Tri-State Mint engaged in electroplating, the minting of coins and the recovery of precious metals. Investigation of the spill revealed levels of cyanide and heavy metals that exceeded drinking water standards.

In May of the same year, a second spill was discovered near Tri-State's offices on A Avenue in Sioux Falls. This spill, which was also found to contain cyanide and heavy metals, was 8 to 10 feet above the city's aquifer and within the cone of influence of two wells in the city's municipal water wellfield. The threat of contamination forced the city to later shut down the two wells during a very dry summer.

When the first spill was discovered, the Environmental Protection Agency's regional office in Denver classified it as RCRA F007 Hazardous Waste. A subsequent review by EPA's Washington Office confirmed this initial determination. In March 1989, the director of EPA's Denver region Hazardous Waste Management Division wrote to the State of South Dakota that, "... the liquid portion of Tri-State's electroplating solution constitutes spent cyanide plating bath solutions from electroplating operations, i.e. F007." He concluded his correspondence by declaring that, "... the circumstances surrounding Tri-State's illegal disposal incident are grievous enough to warrant a substantial RCRA penalty."

In May 1989, after deliberating for 30 minutes, a grand jury indicted Tri-State Mint and its president on 12 counts of violating Federal hazardous waste laws. Both the State of South Dakota and Minnehaha County prosecutors began to proceed with cases based upon the EPA's findings that this spill was an F007 RCRA violation.

After the polluter requested an additional review of the spill's classification, EPA's Washington Office of Solid Waste determined that the Tri-State process at C Avenue was strictly a metals recovery process. Termed "electrowinning" rather than electroplating, EPA flip-flopped and stated that, "we believe that the process is not an electroplating operation within the scope of the F007 listing, but a metals recovery operation."

EPA officials justified their reversal of the F007 listing by suggesting that the so-called recovery process occurred when crucibles used in the Tri-State minting process were crushed after they became unfit for further use. Residual silver was then extracted from the crushed crucibles after they were placed in a solution of cyanide and steel plates were introduced to the solution and an electric current established. As in the electroplating process, the silver aggregated on the positively charged plates and was later scraped off.

At a minimum, electroplating is the deposition of metal by means of electrolysis. Tri-State was definitely electroplating in the sense that they used electricity to coat one metal onto another substrate. The fact that they removed the metal from the



substrate did not appear to change the fundamental nature of the operation, or the applicability of the F007 waste designation.

More importantly, it changed neither the composition of the hazardous solution nor its potential damaging effect on the residents of Sioux Falls. Yet, it did change EPA's classification at C Avenue and the remedies available to address the situation. [Ironically, EPA officials stated that they had information that electroplating operations, under their strict definition, did occur at the other spill site at A Avenue. However, this spill was never even listed.]

It took nearly 16 months and extensive administrative and legal wranglings before the two spill sites in Sioux Falls were finally cleaned to background levels. The legal case, due in part to the EPA's reversal of its initial F007 decision, was weakened, and charges in the criminal case were eventually dropped. Tri-State mint paid a relatively small fine and today continues to operate its plating, minting and recovery operations.

No matter how you package it, the dumping of gallons of solution containing high levels of cyanide and metals poses a serious environmental and public health threat. The environment—and, in the case of the Tri-State dumping, a city's source of water—is not affected based solely upon a how a substance or operation is classified in the manuals of the Environmental Protection Agency. It is the content of the hazardous waste that poses the threat. The Sioux Falls experience with the Tri-State Mint spills underscores this point and highlights the need to close the existing recycling loophole.

Mr. Chairman, the Environmental Protection Subcommittee should be commended for its efforts to address the recycling loophole. Without question, there is a clear and pressing need to strictly regulate the precious metals recovery process. Requiring precious metals recycling operations to fall under the strict requirements and preventive controls of the Resource Conservation and Recovery Act will help prevent other communities from being forced to live through environmental traumas like those experienced by the city of Sioux Falls and the State of South Dakota.

Thank you.

## STATEMENT OF AMERICAN PETROLEUM INSTITUTE

### REGULATION OF SECONDARY MATERIALS <sup>1</sup>

#### I. INTRODUCTION AND SUMMARY

The American Petroleum Institute (API) is a trade association representing over 250 companies engaged in the exploration, production, refining, transportation and marketing of crude oil and petroleum products. We appreciate the opportunity to present the industry's views on the provisions addressing the regulation of secondary materials contained in S. 976, as well as industrial recycling in general. This statement outlines API's perspective on this complex Resource Conservation and Recovery Act (RCRA) issue.

API supports the intent of the legislative approach taken in Section 405 of S. 976 to the extent that it can be interpreted to foster the objectives of RCRA: conserve valuable material and energy resources, foster resource recovery and encourage properly conducted recycling and reuse of solid and hazardous wastes. However, certain legislative "hammers" and other statutory disincentives <sup>2</sup> could effectively nullify the development of this new more tailored regulatory regime. API recommends that these hammers and disincentives be removed from S. 976, and that the bill be revised to more clearly differentiate between and among: on-going manufacturing operations; secondary materials recycling; and waste treatment, storage and disposal activities. These distinctions are blurred in the subject legislation which begins from the erroneous premise that virtually all manufacturing operations should be regulated under RCRA and that only exceedingly narrow statutory exemptions should be recognized.

<sup>1</sup> API is also submitting for the record its views on other provisions contained in S. 976 including used oil management and corrective action.

<sup>2</sup> (1) A statutory deadline by which EPA must promulgate standards for recycling activities. If the deadline is missed, recycling activities are forever regulated under Subtitle C. (Section 405(b))

(2) Stringent demonstration for the new recycling management standards (Section 405(b)), essentially, as stringent as Subtitle C.

(3) Severe limitations on permitting recycling facilities by rule (Section 405(c))

API believes that RCRA and its implementing regulations should recognize the fundamental differences between on-going manufacturing processes, beneficial recycling and reuse and waste management practices. Furthermore, there should be built-in incentives that encourage beneficial recycling and reuse while discouraging waste generation. API recommends that materials that are reused and processed for reuse as part of an ongoing commercial operation, not be included in RCRA's jurisdiction (e.g., onsite recycle/reuse). In addition, API supports the development of a legislative and regulatory regime, distinct from waste management regulation, that encourages the responsible handling and use of recyclable materials outside of the commercial operation that generated the material. In principal, S. 976 is consistent with these recommendations in that it:

- Affirms the "direct reuse" and "closed loop" exemptions from RCRA (Section 405(b)(4) of S. 976), and

- Requires EPA to develop regulations for hazardous secondary material recycling (Section 405(b)(1) of S. 976).

To encourage beneficial recycling, API recommends that S. 976 be modified to:

- Explicitly state that oil recovery and sludge coking practices that occur at petroleum refineries are not subject to RCRA jurisdiction, and

- Clearly distinguish environmentally protective recycling from waste management practices and separately address recycling under a tailored regulatory regime.

## II. THE DEBATE: HOW TO PROMOTE RECYCLING AND AT THE SAME TIME PROTECT HUMAN HEALTH AND THE ENVIRONMENT

### *EPA and Congress Agree That Recycling and Resource Recovery Should Be Encouraged*

EPA has endorsed recycling as an essential component of pollution prevention. In a policy proposed on January 1, 1989,<sup>3</sup> EPA stated:

EPA's proposed policy encourages organizations, facilities and individuals to fully utilize source reduction techniques in order to reduce risks to public health, safety, welfare and the environment and as a second preference to use environmentally sound recycling to achieve these same goals. Although source reduction is preferred to other management practices, *the Agency recognizes the value of environmentally sound recycling, and is committed to promoting recycling as a second preference above treatment, control and disposal.* (emphasis added)

The Agency expressed its commitment to promoting environmentally sound recycling over the remaining components of the waste management hierarchy, namely treatment and disposal. Congress endorsed these same objectives within the RCRA statute as far back as 1976, and reaffirmed recycling's high position in the waste management hierarchy when RCRA was reauthorized in 1984. Congress amended the statute's objectives to include:

minimizing the generation of hazardous waste and land disposal of hazardous waste by encouraging process substitution, *materials recovery, properly conducted recycling and reuse* and treatment. (emphasis added)

API supports the preference for recycling over treatment and disposal of wastes, and believes this clear preference should be carried through in specific legislative provisions implementing this widely shared national objective.

### *Regulatory Evolution*

Though supportive of recycling as a pollution prevention mechanism, EPA has grappled for much of the past decade over the degree to which industrial materials destined for recycling and recycling activities themselves should be regulated under the waste management provisions of RCRA. Central to this confusion has been the "all or nothing" approach to recycling regulation, currently orchestrated by the regulatory definition of "solid waste." This definition is used to determine whether a material is subject to the jurisdiction of RCRA's Subtitle C. In other words, only materials that meet the regulatory definition of "solid waste" are subject to the requirements promulgated pursuant to RCRA's Subtitle C, provided the solid waste is also hazardous. Determining what is and is not regulated under these regulations can be a "mind-numbing" experience.

EPA first promulgated the regulatory scheme for making a solid waste determination in 1980. EPA's original regulatory definition (1980) was confusing, due to the

<sup>3</sup> 54 FED. REG. 3846.

use of the term "other waste material" which included materials that were "sometimes" discarded. In 1985, EPA promulgated revisions to the regulatory scheme in an effort to control poor material and waste handling practices of recyclers. To ensure its jurisdiction over recyclable materials and recycling processes, EPA crafted a regulatory definition for solid waste that, in some instances, regulated recycled materials and beneficial recycling practices as waste and waste management operations. EPA's new approach further confused the distinction between materials that are and are not wastes and when they are considered to be "discarded."

The 1985 redefinition was challenged in court. The court held, in the "AMC I" (American Mining Congress) decision, that:

... the statute reveals clear Congressional intent to extend EPA's authority only to materials that are truly discarded, disposed of, thrown away or abandoned.<sup>4</sup>

In response to the AMC I decision, EPA proposed further revisions to its regulatory definition of solid waste in January of 1988. The proposed revisions focused on excluding from the definition of solid waste materials that are recycled and reused in an ongoing manufacturing or industrial practice, including hydrocarbon recovery from petroleum refinery operations and the transformation of oily sludges into petroleum coke (provided there is no intervening element of discard such as the placement of these materials on the land).

Two recent court decisions (termed "API" and "AMC II") further clarify the meaning of the term "discarded," as that term identifies what materials are solid wastes subject to RCRA regulation. In the "API" case, the court ruled that slag derived from the off-site treatment of hazardous wastes (i.e., metals reclamation mandated as a "best demonstrated available technology" under the land disposal restrictions program) were not beyond the purview of EPA regulatory control as solid wastes. In the AMC II decision, the court held that sludges generated and stored in unlined surface impoundments were solid wastes, notwithstanding the generator's intent to subsequently recycle them. The court explained that since these materials could contribute to "the waste disposal problem" they could be regulated as solid wastes. Significantly, however, the court reaffirmed that materials managed as part of an ongoing industrial process are outside RCRA's jurisdiction.

#### *Acknowledgement of Problem/Remedies Elusive*

EPA has on several occasions acknowledged the difficulty of applying an "all or nothing" approach to recycling regulation and has creatively approached the problem by distinguishing between legitimate recycling and waste management based upon whether the subject materials are managed as wastes (e.g., placed on the land or speculatively accumulated) or managed as valuable raw materials (e.g., as part of an on-going manufacturing process). The question which has faced EPA and now faces Congress is how to foster the recycling while ensuring that human health and the environment is sufficiently protected. EPA identified this problem as one needing fixing recently in: *The Nation's Hazardous Waste Management Program at a Crossroads: The RCRA Implementation Study*, completed in 1990. The report stated that the definitions of "solid waste" and "hazardous waste" need clarification. State regulators interviewed as part of the implementation study specifically identified the RCRA recycling regulations as being particularly difficult to decipher and enforce.

In December of 1990, EPA sponsored a series of conferences to examine problems with the definition of "solid waste," particularly how the current regulatory approach impedes hazardous material recycling. Representatives of EPA Regional offices, industry, State governments, environmental groups and the waste management industry expressed concerns and problems with the "definition," and EPA announced plans to propose further revisions to the definition in the future.

Clarification of the definition of solid waste and the accompanying recycling regulations was identified as a priority activity for EPA in the RCRA Implementation Study and by the attendees at the conferences. API believes that such "clarification" must result in both simplifying the definition and in clearly and appropriately regulating recycling in a manner that protects human health and the environment.

#### *Lack of a Solution Results in "Sham Recycling"*

Concerns have arisen about "sham recycling" practices, e.g., waste management operations masquerading as legitimate recycling to avoid regulation. Sham recycling is the intent to avoid regulation of wastes by pretending to make "products" that

<sup>4</sup> 82 4F.2d 1190.

are never used or by asserting that wastes are being used as fuel when they are really being burned as wastes because they have little or no fuel value. The current regulatory mix results in some recycling management practices being regulated under Subtitle C (e.g., storage of some recyclables, management of residues under the "mixture" and/or "derived from" rules), while others are explicitly exempt from RCRA regulation and still others are in regulatory limbo (materials recycled through application on the land).

Consequently, there is an incentive to mislabel some practices as "recycling" to escape regulation, while other beneficial recycling and reclamation practices that should be encouraged are shunned because of regulatory burdens. Legislative proposals to address the "sham recycling" problem (S. 976 and S. 982), would expand EPA's jurisdiction over recyclable materials and recycling activities. While "sham recycling" should be eliminated, legislative solutions need to be crafted carefully, so as not to discourage legitimate recycling.

### III. THE FUNDAMENTAL NATURE OF OIL REFINING DRAWS THE PETROLEUM INDUSTRY INTO THIS COMPLICATED ISSUE

Petroleum refineries manufacture hydrocarbon-based products using crude oil as the raw material feedstock. Most of the products are fuels—either transportation fuels such as automobile gasoline and jet fuel, or electric power plant fuels such as residual fuel oil and petroleum coke. Other products include lubricating oils (such as automotive engine crankcase oils) and asphalt (used for road paving). The manufacture of two products—fuels and asphalt—has drawn refineries directly into the issue of RCRA's "solid waste" definition.

A brief history of the impact of RCRA's definition of solid waste on petroleum industry recycling practices is provided in Appendix I, including:

- The fundamental activities that occur at refineries in processing crude oil into products,

- How refineries' oil recycling practices were drawn into EPA's RCRA "solid waste" definition in 1985, and

- Why EPA excluded these in-process oil refinery recycling practices from waste regulation and how these practices were impacted by the AMC decision.

Both EPA and the courts agree that oil recycling practices at refineries are part of the ongoing manufacturing operation that refines crude oil into products. These practices are not "waste" management practices, nor are they "part of the waste disposal problem." Hence, they are not part of RCRA's jurisdiction.

### IV. SECONDARY MATERIALS RECYCLING PROVISIONS OF SECTION 405 DON'T PROVIDE SUFFICIENT INCENTIVES FOR RECYCLING

API supports the general approach toward hazardous material recycling taken in S. 976,<sup>5</sup> however, specific provisions in section 405 could have disastrous effects on beneficial oil recycling activities at refineries. In addition, the legislative policy preference for recycling over treatment is weakly expressed in the bill. The provisions appear to provide little incentive for recycling activities over treatment and disposal activities. Indeed, they may have precisely the opposite effect and serve to encourage treatment and disposal.

The provisions addressing recycling of secondary materials contained in Section 405 of S. 976 would result in the following:

- EPA would be required to promulgate management standards for the recycling of hazardous waste and hazardous secondary materials under Subtitle C of RCRA within 24 months of enactment of the RCRA Amendments of 1991 or "hazardous secondary materials shall be deemed hazardous wastes for all purposes of this subtitle." The standards would have to "protect human health and the environment to the same degree as the requirements that are applicable to the transfer, storage and disposal of hazardous waste."

- EPA would be authorized to issue permits-by-rule for recycling facilities, provided "the Administrator determines that no single facility or recycling unit of such

<sup>5</sup> K Recycling of secondary material that is: (1) part of and ongoing industrial activity by the generating industry itself and (2) that is environmentally protective, should be outside RCRA jurisdiction.

Recycling that is outside of the generator's ongoing industrial activity should not be regulated as a hazardous waste management activity. Rather, it should be regulated separately and not be burdened with time consuming facility-by-facility permitting.

"Sham recycling" activities should get no relief from hazardous waste regulation by masquerading as recycling rather than treatment.

class has the potential for significant damage to human health and the environment and that the class will have minimal cumulative adverse impact on human health and the environment."

- Hazardous waste regulatory requirements (rather than the new recycling requirements) would be imposed on any facility burning a hazardous secondary material (HSM) for energy recovery or producing a product from an HSM that is placed on the land.

- Facilities engaged in "closed-loop recycling" and "direct reuse recycling" would be exempt from recycling management standards and permit requirements.

- Residues generated from recycling operations would have to be managed pursuant to Subtitle C management requirements, provided the residue exhibited a hazardous waste characteristic or was derived from a listed hazardous waste.

As drafted, these provisions would provide few, if any, incentives for the recycling of hazardous secondary materials (HSM). All facilities engaged in HSM recycling would be subject to substantial new Subtitle C requirements including corrective action, with the exception of those facilities engaged exclusively in closed-loop or direct reuse recycling. Facilities engaged in HSM recycling would have no alternative but to comply with full fledged, site-specific Subtitle C permits, assuming that there would be a single unit or facility that would thwart the authorization of the permit-by-rule provisions.

#### *Provisions Would Negatively Impact Hydrocarbon Recovery Operations*

If enacted, recycling operations common to most petroleum refining operations would likely become newly subject to stringent Subtitle C requirements, since the bill is silent on the status of exemptions presently incorporated into the RCRA regulations to foster these practices (See Appendix I). The bill seems to include these practices through its broad definitions of secondary material and hazardous secondary material and its narrow exemptions.

The "closed-loop" and "direct reuse" exemptions from RCRA jurisdiction provide no more relief for petroleum industry recycling practices than these same exemptions did when EPA originally promulgated them in 1985. The fundamentals of refining—producing fuel products and products designed for placement on the land (asphalt)—would appear to disqualify a refinery from using these exemptions. Central to this problem would be the regulation of the fuels and asphalts as solid wastes (40 CFR § 261.2(c)(1) and (2)).

Additionally, the provisions in section 405(c) that mandate hazardous waste management standards for facilities that burn HSM for "energy recovery" could, conceivably, subject oil refineries to regulation as hazardous waste management facilities. Although regulating oil refining processes as if they were hazardous waste operations may seem ludicrous, this same result, though unintentional, was created by EPA's 1985 rules amending the definition of solid waste (see Appendix I). This situation was the driving force behind the exceptions from RCRA hazardous waste management requirements, promulgated in 40 CFR § 261.6 for petroleum industry recycling practices (including those for oil recovery activities and sludge coking). EPA recognized the merit of these recycling practices and saw fit to foster them through reduced regulatory requirements. In addition, EPA proposed to exempt these practices from RCRA jurisdiction in its 1988 proposed rule amending the definition of solid waste. It makes no sense, to now reverse or eliminate existing incentives that encourage petroleum industry recycling practices.

#### *Solution Sought in Other Legislative Proposals*

S. 982, introduced by Senator Chafee, takes a similar approach to that taken in S. 976. The bill would amend the definition of "solid waste" to include materials that are recycled, with the exception of those materials recycled as part of a closed-loop or a direct reuse manufacturing process. It is unclear, however, how the bill would impact fuels produced from recovered oils, although, asphalts would most likely be solid wastes. API would oppose this legislation for it has many of the same problems as S. 976.

A different approach is taken in S. 1473, introduced by Senator Warner. The bill acknowledges straightforwardly that recycling is not waste management. Notably, the bill would explicitly exempt from the definition of solid waste "materials used for recycling." Unlike the narrow closed-loop and direct reuse focus of the Baucus and Chafee proposals, S. 1473 would exempt from recycling regulation: "industries that reuse, in a production process, secondary materials generated from another production process by the facility at which the secondary material was generated." Finally, the bill would allow the application of existing industry standards (e.g., those established by trade associations such as API or the American Society for Testing and Materials (ASTM)) in the development of recycling management re-

quirements in the new RCRA Subtitle for materials recycling management. API supports the approach to recycling regulation taken in this bill, and believe that it addresses many of the petroleum industry's concerns with hazardous secondary material recycling in general.

#### V. API RECOMMENDATIONS

API supports a separate regime for the regulation of certain hazardous secondary material recycling. The provisions in Section 405 of S. 976 appear to support this approach, however, the "direct reuse" and "closed loop" exemptions are so limited as to provide no more relief for beneficial oil recycling and sludge coking practices at petroleum refineries than the EPA rule that established them. Specifically, Section 405 (b)(3) mandates that hazardous secondary materials burned for energy recovery or used to produce products placed on the land should be regulated as RCRA hazardous wastes and not recycled materials. Thus, the petroleum industry is potentially faced with the same barriers to beneficial oil recycling practices that it faced in 1985. To encourage beneficial recycling in a manner that is protective of human health and the environment, API recommends:

- S. 976 be modified to explicitly state that environmentally protective oil recovery and sludge coking practices that occur at petroleum refineries are not subject to RCRA jurisdiction, and

- S. 976 be modified to clearly distinguish environmentally protective recycling from waste management practices.

#### *Clarify S. 976 to State That Oil Recycling Practices at Refineries Are Not Subject to RCRA Jurisdiction*

As discussed, Section 405 of S. 976 appears to subject oil recycling practices at refineries to requirements for the treatment, storage and disposal of hazardous waste. These practices have been extensively reviewed by EPA and the courts and have been found not to warrant RCRA jurisdiction. Their conclusions provide a road map that directly addresses this issue. Simply put, beneficial oil recycling practices are not part of the waste disposal problem they are a preventative prescription for the solution.

#### *Develop Separate Regulatory Regime for Recycling Practices That Are Not Conducted by the Generating Industry Itself*

Although S. 976 purports to set out a separate regulatory regime for recyclable hazardous secondary materials, the regime is premised on the Subtitle C hazardous waste model. API recommends that a better approach is to establish a separate regime for recycling that is distinct from waste management. This regime would be founded on the twin goals of:

- Recognizing that recycling is part of pollution prevention and should be encouraged, and

- Ensuring that recycling is done in an environmentally protective manner.

The regime should have the following elements:

- Generators, and subsequent managers of recyclable materials should be required to notify EPA of their activity. Furthermore, they should certify to EPA that their recycling activities are in compliance with appropriate regulatory requirements. There should also be a tracking system for all materials sent to recyclers.

- The regime should encourage recycling through management standards tailored to ensure that recycling is done in an environmentally protective manner (e.g., prohibitions on land based storage of HSM and limitations on the length of time HSM may be stored prior to recycling).

- The management standards should include generally accepted engineering specifications and operating practices and be should self-implementing. They should not include unnecessary disincentives such as facility-by-facility permitting or facility-wide corrective action requirements. These latter two requirements are not necessary if appropriate management standards are developed to ensure that recycling is done in an environmentally protective manner. However, such requirement may prove to be major disincentives to potential recyclers.

#### *API's Recommendations Would Discourage 'Sham Recycling'*

API's recommendations would discourage 'sham recycling' activities by taking the benefits out of sham recycling that may exist under and "all or nothing" approach to RCRA regulation. Currently, hazardous secondary material is either regulated as a RCRA hazardous waste or is not regulated by RCRA at all (although it is still subject to regulatory requirements separate from RCRA). Instead, recyclable materials would be subject to a tailored set of RCRA management standards.

For example, recyclers would have to notify EPA and certify that their activities comply with appropriate regulations. This meets the concerns of both the regulators and the regulated industry. Regulators would be notified of recycling activities and could prioritize enforcement efforts accordingly. Generators of recyclable materials would have a minimum clear standard by which to judge potential recyclers of their materials—e.g., whether the recycler notified EPA and certified compliance? These would be objective standards to measure the performance of potential recyclers and ensure that recycling is done in an environmentally protective manner. This would be an improvement over the current system of no notification. For example, suppose the recycler has not notified EPA of their activities. The generator could simply decide not to use that potential recycler for the generator's recyclable materials. Thus, illegitimate recycling will be easier to detect and root out, benefitting all but the "sham recycler."

## APPENDIX I

### IMPACT OF THE RCRA'S DEFINITION OF SOLID WASTE ON PETROLEUM INDUSTRY RECYCLING PRACTICES

#### *Petroleum Refineries Manufacture Hydrocarbon-Based Products from Crude Oil*

A simplified flow diagram for a petroleum refinery is shown as Figure 1. The refining process generally begins at the crude unit, where crude oil is distilled into various fractions (separated by boiling point). Some fractions may be blended into finished products with minimal further treatment, while other fractions require significant additional processing (in units such as catalytic crackers and cokers) to break the higher boiling molecules into smaller molecules. Hydrocarbons from all stages of processing are combined and blended into products such as gasoline, fuel oils, etc.

Many refinery processes generate oil-containing wastewater streams that are combined and treated in a centralized wastewater system. The first step in this system separates oil-bearing materials (oily sludges and recovered oil) from the wastewater. The petroleum industry routinely recovers and refines oil from these oil-bearing materials—materials that would be hazardous wastes if they were discarded rather than recycled.

These oil-bearing materials are recycled at refineries in many ways:

- Recovered oils (from API Separator skimmings, for example) are fed to the recovered oil system for emulsion breaking and oil recovery. Subsequently, the recovered oil is fed to the crude unit for refining into products.
- Oily sludges (API Separator sludge, DAF float and Slop Oil Emulsion Solids) are dewatered/deoiled by mechanical devices such as centrifuges and filter presses. The oil is sent to the recovered oil system discussed above. These sludges would be listed hazardous wastes if they were disposed of rather than recycled.
- Some oily sludges are also fed directly to cokers that incorporate the material into product coke.

The frequency of oily sludge recycling was discussed in a recently published API report.<sup>1</sup> The report showed that in 1988, the U.S. petroleum refining industry generated approximately 830,000 tons of oily sludges. Roughly 200,000 tons of these oily sludges were recycled to refinery units such as cokers and crude units, while the remaining 630,000 tons were treated or land disposed. Thus, as of 1988 (the most recent date for which data is available), about 1 ton of oily sludge was being recycled for each 3 tons treated or land disposed. The amount recycled, while significant in 1988, is expected to increase and may become the predominant way to manage these materials in the future.

Not included in these totals is an even higher amount of other "recovered oil" that is routinely recovered and recycled at refineries. Although not included in the API survey, recovered oil may meet the definition of "secondary material" contained in proposed S. 976 legislation, and thus could be regulated as hazardous waste—this is discussed later.

EPA's 1985 "Solid Waste Definition" Rule (as Originally Promulgated) Would Have Adversely Impacted Oil Recovery Practices

On January 4, 1985, EPA promulgated a final rule on what is a "solid waste." This rule described certain types of recycling practices that EPA defined as "solid waste" management—and hence under RCRA jurisdiction. Two parts of the regulations had significant impacts on the oil recycling practices described earlier:

<sup>1</sup> *The Generation and Management of Wastes and Secondary Materials in the Petroleum Refining Industry: 1987-1988.*

● 40 CFR § 261.2(c)(2)(i)(B) stated that certain secondary materials used to produce a fuel were solid wastes (and the fuel itself was a solid waste). The oil recycling practices discussed above would make the fuel products produced by the refinery "solid wastes."

● 40 CFR § 261.2(c)(1)(i)(B) stated that certain secondary materials used to produce products that are placed on the land were solid wastes (and the product itself was a solid waste). Thus, asphalt produced by a refinery using the oil recovery practices discussed above would be a "solid waste."

Since the oil recycling practices involved materials that would have been hazardous wastes if disposed of, the result of the regulation was:

● Refined fuel products (gasoline, jet fuel, etc.) could not be sold to the public (they could only be incinerated or burned in EPA classified "industrial furnaces and boilers."), and

● Asphalt was considered a waste to be disposed of, not a product. However, EPA did clarify in the rule's preamble that asphalt would not have to be handled as a waste, recognizing the beneficial use of this substance.

"Closed-loop" and "use/reuse" exemptions were also promulgated as a part of EPA's 1985 rule, excluding these practices from RCRA jurisdiction. (These are included in 40 CFR § 261.4(a)(8) and § 261.2(e)). These are also included in S. 976 as exemptions under the proposed legislation). However, these exemptions did not provide any relief for petroleum products since they did not apply to recycling practices that produce fuels or products designed to be applied to the land.

#### *Discussions between EPA and API Resulted in Regulatory Exemptions for Oil Recycling Practices at Refineries*

In early 1985, before the rule revising the definition of solid waste became effective, discussions were held between API and EPA to address these problems. API provided data to EPA that demonstrated that the oil recycling practices were environmentally protective. (EPA was particularly concerned about a possible increase in heavy metals levels in fuel products as a result of recycling—API data showed that heavy metals did not increase.) As a result of these discussions, EPA promulgated a series of regulatory exemptions in April through November of 1985 that effectively exempted oil recycling activities (and the resulting products) and petroleum coke produced from refinery sludges from RCRA regulation (40 CFR § 261.6(a)(3)). These exemptions from Subtitle C, did not completely resolve the problems associated with petroleum industry recycling practices, for these were merely exemptions from Subtitle C management practices, not an exemption from the definition of solid waste. The AMC I decision, discussed below, addressed this further concern.

In a March 1985 letter to API, EPA clarified that "hazardous waste-derived asphalt is deferred from regulation" through provisions in 40 CFR § 266.20(b). Asphalt was exempted because it was a product produced for the general public's use and the "recyclable materials" had "undergone a chemical reaction so as to become inseparable by physical means." (In August 1988, EPA added the additional restriction to 40 CFR § 266.20(b), requiring that all products excluded from Subtitle C regulation under this provision must meet BDAT standards for each "recyclable material" they contain).

#### *EPA's Response to the AMC I Court Holding Reinforced the Conclusion that Oil Recovery Practices Were Outside RCRA's Jurisdiction*

In July of 1987, the U.S. Court of Appeals, D.C. Circuit, in what is commonly referred to as the "AMC I decision," granted a petition for review of EPA's January 1985 rule. The court squarely faced RCRA's jurisdiction over recycling practices:

The question we face, then, is whether in light of the National Legislature's expressly stated objectives and the underlying problems that motivated it to enact RCRA in the first instance, Congress was using the term "discarded" in its ordinary sense—"disposed of" or "abandoned"—or whether Congress was using it in a much more open-ended way, so as to encompass materials no longer useful in their original capacity though destined for immediate reuse in another phase of industry's ongoing production process. For the following reasons, we believe the former to be the case. RCRA was enacted, as the Congressional objectives and findings make clear, in an effort to help the States deal with the ever-increasing problem of solid waste disposal by encouraging the search for and use of alternatives to existing methods of disposal (including recycling) and protecting human health and the environment by regulating hazardous wastes. To fulfill these purposes, it seems clear that EPA not regulate "spent" materials that



are recycled and reused in an *ongoing* manufacturing or industrial process. These materials have not yet become part of the waste disposal problem; rather *they are destined for beneficial reuse or recycling in a continuous process by the generating industry itself.* (emphasis in original) <sup>2</sup>

One of the industrial processes reviewed by the court was oily material recycling described earlier. The court held that materials recycled by such practices were part of an ongoing manufacturing process and were not "part of the waste disposal problem"—and thus not "solid wastes."

In January of 1988, EPA proposed a modified definition of solid waste in response to the court decision. EPA proposed to exclude from the definition of solid waste:

"Oil-bearing hazardous secondary materials from petroleum refining which are converted into petroleum coke at the same facility at which such materials are generated, provided the materials are not stored in a manner involving placement on the land, or are accumulated speculatively, before being so recycled. (However, coke produced from such recycling is not a solid waste.)" <sup>3</sup>

"Oil bearing hazardous secondary materials from petroleum refining that are generated onsite and reinserted into the petroleum refining process along with normal process streams, provided the materials are not stored in a manner involving placement on the land, or accumulated speculatively, before being recycled. (Fuels produced from such recycling activities are not solid wastes)." <sup>4</sup>

In commenting the AMC I decision, EPA stated:

The court held that true in-process oil-bearing materials in the petroleum refining industry were not solid wastes when continuously reused in the refining process. Such activity, in the court's view, involved continuous recovery of hydrocarbon values from crude oil, and the oil-bearing residuals, therefore are not discarded materials. Consequently, the Agency proposes to change its existing rules to state that oil-bearing secondary materials from the petroleum refining process so recycled are not solid wastes, provided there is no other element of discard or disposal characterizing the recycling activity. <sup>5</sup>

It is important to note that EPA carefully defined conditions for oil recycling practices to be outside RCRA jurisdiction. Key conditions are that the material must be:

- Oil bearing
- Generated onsite
- Reused in the refining process
- Not placed on the land, and
- Not accumulated speculatively.

Although EPA's proposal has never been finalized, it still remains as EPA's most definitive response to the AMC I holding. Later court cases (API and AMC II) have clarified the original AMC I holding, but have not modified it with respect to the approach taken by EPA in the 1988 proposed rule. Indeed, these cases are fully consistent with and confirm the appropriateness of EPA's views concerning this regulatory approach.

In summary, extensive regulatory and judicial review has concluded that oil recycling practices at refineries are part of the ongoing manufacturing operation that refines crude oil into products. These practices were not "part of the waste disposal problem"—and hence not part of RCRA's jurisdiction.

## REGULATION OF USED OIL

### I. INTRODUCTION

The American Petroleum Institute (API) is a trade association representing over 250 companies engaged in the exploration, production, refining, transportation, and marketing of crude oil and petroleum products. We appreciate the opportunity to present the petroleum industry's views on the provisions addressing the regulation of used oil contained in section 406 of S. 976.

<sup>2</sup> 824 F.2d 1185.

<sup>3</sup> Proposed 40 CFR § 261.4(a)(9), 53 FED. REG. 529.

<sup>4</sup> Proposed 40 CFR § 261.4(a)(10), 53 FED. REG. 529.

<sup>5</sup> 53 FED. REG. 521.

API and its member companies are committed to resource conservation and environmental protection. EPA estimates that over 200 million gallons of used oil are improperly disposed of every year by Do-It-Yourselfers (DIYers)—95 percent of DIYer used oil.<sup>1</sup> Such actions pollute the environment and squander a valuable resource. Used oil recycling provides an excellent opportunity to conserve these resources and protect the environment through the use of used oil for its energy value or as a re-refined lubricant.

We believe a recycling program, to be successful, must be readily available to the DIYer. A successful program must include:

- 1) A prohibition on listing or identifying used oil as a hazardous waste.
- 2) Cost effective and environmentally protective management standards for the collection, transportation, and recycling of used oil.
- 3) Participation by State and local governments and recognition of established public and private sector collection and recycling activities.

API generally supports the approach taken in S. 976, in that the bill contains provisions that adopt the three elements of a successful program. However, API believes that the provisions can be further improved by the elimination of permit requirements for refineries engaged in recycling and by revising the bill's "recycling" definition to expressly provide that the combustion of used oil for energy recovery is included as recycling. API's views on these three components of a successful used oil management program are outlined in the sections that follow.

## II. COMPONENTS OF A SUCCESSFUL USED OIL RECYCLING PROGRAM

### *Hazardous Waste Classification*

API supports adding a provision to the Resource Conservation and Recovery Act (RCRA) that prohibits the designation of used oil as a hazardous waste. This provision is an essential part of any used oil recycling program. A recycling program's viability could be seriously eroded by EPA or a State's designating used oil as a hazardous waste. This is so because, many service stations, convenience markets, vehicle repair shops, public entities, and other potential collectors could then be required to obtain hazardous waste permits to store used oil. Rather than incur higher costs (from recordkeeping, permitting, and insurance) and liabilities of becoming hazardous waste collectors, the majority will likely refuse to collect used oil, particularly from DIYers. The result would be more improper disposal of used oil and less recycling by DIYers. API applauds the inclusion in S. 976 of a no-listing provision. API suggests, however, that the prohibition also extend to "affiliated materials"<sup>2</sup> contaminated with used oil.

EPA has traditionally supported the "no-listing" approach for use oil, a position which is bolstered by State experiences with used oil listings which have demonstrated that recycling efforts can be impeded. EPA concerns and the State experiences are examined below.

### *A. EPA Concerns*

The Environmental Protection Agency (EPA) has, since the initial debate on this issue, recognized that classifying used oil as a hazardous waste would be detrimental to recycling, that such a designation could, in fact, lead to net environmental harm. In its November 1986 decision not to classify used oil as a hazardous waste, EPA stated:

[w]e have determined that listing [used oil being] recycled would discourage recycling of used oil. Our further concern is that the displacement of this used oil from recycling could cause an increased quantity of used oil to be disposed of in uncontrolled ways causing harm to the environment. This increased disposal could result from decreased use of used oil as fuel by industrial burners and decreased acceptance of do-it-yourself oil by service stations (and similar establishments) . . .<sup>3</sup>

Even though the Agency recognizes the likely detrimental impact on recycling of classifying used oil as a hazardous waste, EPA has been prohibited by the courts from relying on a "stigma" argument to justify a decision not to list. EPA remains

<sup>1</sup> 1988 *Used Oil Flows in the United States*, Temple, Baffler and Sloan Inc.

<sup>2</sup> The definition should be added to Section 1004 of RCRA as follows:

(40) The term "affiliated materials," when used in connection with used oil, shall include but not be limited to absorptive materials that are used to contain and control spills and/or releases of used oil including: oily rags, industrial wipers and used oil filters that have come into contact with used oil, provided that the free flowing used oil has been removed.

<sup>3</sup> 51 Fed. Reg. 41901 (November 19, 1986).

under a mandate from the Court of Appeals for the District of Columbia Circuit to determine whether used oil should be classified as a hazardous waste without regard to the "stigma" argument. In conjunction with this court mandate, EPA released (on September 3, 1991) a supplemental notice to a November, 1985 proposed rulemaking that addressed whether or not to list used oil as a hazardous waste. The notice presents a series of options for used oil listing and management. One option recognizes the unnecessary burdens and lack of flexibility imposed by Subtitle C management standards and permitting requirements and recommends that used oil not be listed or identified as a hazardous waste, but rely on management standards to ensure protection of human health and the environment. API supports this option and encourages Congress to take a leadership role by mandating such an approach in RCRA reauthorization legislation.

### *B. State Experience*

State experience shows when used oil is classified as a hazardous waste, handling costs escalate and the number of collectors and collection facilities diminishes. For example, California legislation that became effective in 1987 instituted stricter controls over the disposition of used oil as a hazardous waste. By 1988, the cost to the public for handling used oil increased from \$0.10/gallon to \$0.40/gallon. The number of used oil haulers dropped from 121 in 1982 (when California first instituted handling of used oil as a hazardous waste) to only 81 in 1988. The loss of collection facilities was even more dramatic: California lost half of its used oil collection facilities between 1985 and 1988.<sup>4</sup>

The California Waste Management Board recognized these trends may be due to the requirement for handling of used oil as a hazardous waste. Among the reasons cited by the Board for these trends are the cost of hazardous waste liability insurance to haulers, liability concerns of collectors, and the high cost for recyclers to obtain permits. While the Board noted there have been increases in the amount of used oil collected in California since the new used oil legislation took effect, it stated the increases could be attributed to improved reporting under the law's new requirements and not to actual increases in the amount of used oil collected. A statistical analysis of used oil recycling in California is provided in Appendix 1.

Another example of a used oil listing experience would be a program tried in South Carolina. In 1978, the State adopted a program similar to a Federal listing and found that the used oil collection and recycling program was detrimentally affected. In addition, many service stations stopped accepting used oil and the general public had increased difficulty finding collection points. This provides a clear and dramatic indication of the powerful disincentive listing is to used oil collection and recycling. The number of collectors, haulers and recyclers willing to handle used oil labeled as a hazardous waste declined, and transporters began shipping the material out of State where requirements were less stringent. South Carolina calculated that its overall collection had decreased.<sup>5</sup> Finally in 1989, recognizing the failure of their listing program, the South Carolina regulators dropped the hazardous listing of used oil.

### *Appropriate Management Standards*

API believes that management standards are a necessary incentive for used oil recycling, because they will clearly outline what is expected of potential collectors, transporters and recyclers. Such standards will provide for systematic used oil collection, transportation and recycling, as well as provide a mechanism for monitoring the overall success of a used oil recycling program.

The standards should be flexible and encourage broad participation by all parties capable of beneficially and safely recycling used oil. All reasonable recycling options should be encouraged including reprocessing, re-refining and use as a fuel. API supports legislation that allows for as many recycling options as possible.

S. 976 specifies detailed requirements for generator/collectors, transporters and recyclers. However, the bill is silent on the recycling of used oil for use as a fuel. The application of used oil as a fuel conserves virgin fuels for other purposes and should be encouraged by RCRA legislation. API recommends that the definition of "recycling" be amended to specifically include the burning of used oil as a fuel as is currently regulated by EPA in 40 CFR Part 266, Subpart E.

API strongly supports legislative approaches that allow refineries to recycle used oil as fuel or in the production of re-refined products. Individual refineries are in

<sup>4</sup> *Used Oil Recycling in California (draft)*, California Waste Management Board, January 1990.

<sup>5</sup> *Used Oil 1990—Used Oil Managers Position Themselves for Change*, E.I. Digest, November 1990, Environmental Information, Ltd.

the best position to determine the optimal use for their used oil, whether as a feed stock or fuel. As drafted, however, S. 976 would require that petroleum refineries receive permits as recyclers to engage in beneficial used oil recycling practices. Many refineries are already subject to very detailed permitting requirements under the Subtitle C provisions of RCRA. API believes that permitting such refineries for used oil recycling practices would be unnecessary and a poor allocation of limited resources. API suggests instead, that Section 2911 facilities (petroleum refineries) be subject to notification, recordkeeping and proper storage requirements.

#### *A. Additional Incentive Approaches*

API does not support additional incentives to foster used oil recycling such as a credit system, which would obligate producers of lubricating oils to recycle an increasing percentage of used oil. A credit system does not directly address the immediate issue of increasing DIYer used oil collection. Furthermore, a credit system will place unnecessary administrative burdens upon small businesses and government without assuring an increase in the amount of used oil collected. Finally, as has occurred with other entitlement and ticket systems, a credit system would be susceptible to abuses, without yielding the desired result of increased used oil recycling.

#### *State and Local Initiatives*

Numerous States and municipalities have initiated aggressive used oil collection programs providing convenient collection centers for DIYers. API strongly supports these efforts for they have the greatest potential to increase the amount of DIYer used oil recycling.

In support of State and local programs, API is instituting a plan to promote these programs and coordinate the industry's recycling efforts with those programs. Progress in these collection and recycling programs is already evident in several States. API's member company programs are now in 26 States (including both pilot and regular programs). These programs have seen substantial progress in providing convenient centers for used oil collection. Since February, 1991, the number of service station/quick lube facilities which are collecting used oil has risen from approximately 800 to over 2200. Member companies expect this number to increase as the programs continue.

Furthermore, API is implementing a plan which supports and encourages State and local governments' efforts in public education and collection programs, in addition to coordinating the industry's participation in the used oil recycling system. A crucial factor which will affect the success of State and local programs, as well as the API program, is the prohibition of a hazardous waste designation for used oil.

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#### STATEMENT OF VICTOR E. LINDENHEIM, PRESIDENT, AMERICAN WOOD PRESERVERS INSTITUTE

The American Wood Preservers Institute (AWPS) the national trade association for the wood-preserving industry, urges Congress to improve economic efficiency and environmental safeguards by amending the Resource Conservation and Recovery Act (RCRA) to provide an exemption from Subtitle C regulation for all industrial wastewaters and other byproducts that are that are beneficially reused as a feed-stock in the manufacturing process.

#### CURRENT SUBTITLE C SYSTEM INFLEXIBLE

Congress needs to amend RCRA to establish a more sensible hazardous-waste scheme that is based upon actual risk. A major policy change is required, one that fundamentally alters the "all or nothing" coverage of hazardous materials under the current law. The present Subtitle C system is altogether too inflexible, triggering a host of technical and legal requirements for many solid wastes that pose little or no threat to human health and the environment. The law ought to provide regulatory certainty and administrative simplicity, perhaps through an approach based upon environmentally protective levels of hazardous constituents in the waste stream. Meanwhile, there are signs that the Environmental Protection Agency recognizes the inequities that the present system creates.

On July 19, 1991, the Agency proposed to bring its RCRA regulations into conformance with longstanding EPA policy by requiring regulators to consider a variety of factors when bringing waste streams into the Subtitle C system.<sup>1</sup> The proposed

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<sup>1</sup> 56 Fed. Reg. 33238.

regulation is a technical amendment to 40 CFR § 261.11(a) (3), which sets forth the criteria to be followed by EPA when listing a solid waste as hazardous under RCRA.

Section 3001(a) of RCRA requires EPA to adopt criteria for the listing of hazardous waste "taking into account toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics." In conformance with the congressional mandate, the current regulations identify eleven factors that the Agency must consider when deciding whether to list a waste as hazardous. The factors include the nature and toxicity of the constituent; the potential for the constituent or any other toxic byproduct in the waste stream to migrate into the environment when mismanaged; the persistence of the constituent; its potential to degrade into a non-hazardous compound; the degree to which the constituent bioaccumulates in ecosystems; and "such other factors as may be appropriate."

In its rulemaking proposal, the Agency states that it will list as a toxic hazardous waste any solid waste that "contains any of the toxic constituents listed in Appendix VIII and, after considering the following factors, the Administrator [of EPA] concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise mismanaged" [Emphasis added]. The factors to be considered are the eleven identified in the current rules.

As the Agency correctly notes in the preamble to the proposal, an approach to listing based solely upon the presence of a single hazardous constituent (regardless of the amount) could lead to the regulation of thousands of industrial processes and wastes. This is not economical, logical, or environmentally protective. Careful evaluation of the waste against all of the listing criteria is absolutely critical to the regulated community because the consequence of having a waste stream listed under RCRA is somewhat akin to receiving a life sentence without parole.

With limited exceptions, such as through the delisting process, a listed waste remains legally hazardous forever, regardless of the contamination levels due to natural or man-made alterations in the composition of the waste before or after disposal.<sup>2</sup> EPA itself has indicated the present RCRA system is expensive, burdensome, and all-encompassing.<sup>3</sup>

The Office of Solid Waste now plans to solicit comments on RCRA recycling issues, including whether the Agency ought to exempt from Subtitle C all secondary materials that are not treated before being returned to the original or primary industrial process to make a product.

#### RCRA EXCLUSION NEEDED FOR BENEFICIALLY REUSED WASTEWATERS

All industrial extracts, including wastewaters, should be exempt from Subtitle C if they are beneficially reused at the point of generation. For example, wood-treating plants using inorganic arsenical preservatives, which are 99 percent water, collect spent preservatives along with rain, snow, wash water, and other wastewaters on the drip pad. After filtration to remove minor amounts of dirt and other impurities, the entire water-chemical mixture is returned to the production process and never becomes part of the waste-management problem that RCRA was designed to rectify. Congress should amend RCRA to clarify that any wastes that are destined for recycling in the manufacturing process itself and not placed on the land are outside the scope of Subtitle C regulations. The law also should reflect that hazardous materials that are beneficially reused in the manufacturing process need not be contained in a classic "closed-loop" system to qualify for an exemption from RCRA regulations for solid wastes.

Shielding from the Subtitle C system all usable materials, including wastewaters, that are returned to the manufacturing process at the facility where they are generated preserves economic value at no cost to the environment. Regulating large vol-

<sup>2</sup> A waste may be delisted by EPA or an authorized State after a lengthy and expensive rule-making process. The criteria for delisting are inordinately stringent.

<sup>3</sup> "The Agency maintains that the expanded use of characteristics . . . offers advantages over listing for identifying broad categories of clearly hazardous waste. Establishing a characteristic allows the Agency to identify through one rule those wastes which are reasonably certain to pose a threat to human health and the environment without expending vast Federal resources to study, characterize, and list numerous individual wastestreams . . . [The characteristic approach does not bring wastes into the Subtitle C system which do not present a substantial present or potential hazard to human health and the environment. By contrast, a listing, since it applies to all wastes that meet a listing description, may capture some individual wastestreams that do not actually pose a threat to human health and the environment]" [55 Fed. Reg. 11805, March 29, 1990].

umes of reusable materials that never leave the generating facility increases the burden on the economy at no benefit to the environment.

In addition, Congress ought to amend the law to identify "coproducts" as materials generated in an industrial process and reused as a product substitution or feedstock in the same industrial process. The law also should make it plain that materials that are "reclaimed" after minor processing such as filtering in a continuous process are not destined to be "discarded materials." Under the current regulatory regime, these processes are regulated as hazardous-waste-management activities. Such regulation discourages resource recovery and waste minimization at a time when EPA ought to be encouraging the design and implementation of on-site industrial processes that recover material having a commercial value or that "reclaim" materials that are inherently productlike.

Current RCRA rules already exclude from the definition of "solid waste" any material that is "recycled" by being used or reused without prior reclamation in the manufacturing process. Materials that must be "reclaimed" prior to use or reuse are "solid wastes" until reclamation is complete.<sup>4</sup>

In addition, EPA does not assert RCRA jurisdiction over certain "closed" recycling systems directly associated with product manufacturing. This "closed-loop-recycling" exclusion requires that materials be returned to the production process through a closed-top tank, hard pipe, or other completely enclosed containment device. In *AMA* (1987), the U.S. Court of Appeals for the District of Columbia Circuit specifically limited the Agency's RCRA authority over hazardous secondary materials destined for recycling to those materials that are to be discarded. Significantly, the Court did not require that such systems be completely closed. Nor did it state that any form of "reclamation" activity occurring before the material is returned to the product process should be regulated as hazardous-waste management.

The Court held that materials "destined for immediate reuse in another phase of the industry's ongoing production process" are not discarded and therefore are not "solid wastes." Materials that are not yet part of the waste problem may not be regulated under RCRA since "they are destined for beneficial reuse or recycling in a continuous process." We strongly support this interpretation. We think this was precisely the result desired by Congress when it first enacted RCRA.

Incredibly, EPA does not read AMC I as waiving Subtitle C requirements for recycled materials. "Because a material may be destined for recycling does not prevent EPA from classifying it as 'discarded' and hence a solid waste."<sup>5</sup> This unfortunate reading cannot have been what Congress intended because it inflates the generation of hazardous waste and minimizes resource recovery; both results are inconsistent with the purposes of RCRA.

The December 6 regulation listing three wood-preserving waste streams as hazardous under RCRA requires wastewaters, including rain, snow, and other waters collected on the drip pad, to be managed as a hazardous waste. EPA says they are solid wastes until they can be reclaimed by filtering or other means.

Wood-preserving is a production process, not a wastemanagement activity. It involves the recovery and beneficial reuse of secondary materials that might otherwise become a burden on the environment through traditional off-site waste-disposal methods. The fact that filtration occurs as a necessary part of the woodpreserving production process should not equate the entire process with a hazardous-waste-management activity. Even if one were to assume that "reclamation" is legitimately regulated as a hazardouswaste activity, the passive filtration of secondary materials should not trigger the stringent regulatory requirements of RCRA Subtitle C at a manufacturing facility.

On July 1, 1991,<sup>6</sup> the Office of Solid Waste published a technical correction notice to the December 6 regulation listing F032, F034, and F035 waste streams as hazardous under RCRA. The OSW notice explains that wood-preserving wastewaters (including cooling tower makeup waters, vacuum pump seal water, and scrubbing water) containing spent preservatives will not be subject to Subtitle C regulations after the wastes are reclaimed and reused at the plant to treat wood; however, they are fully regulated hazardous wastes before they are "reclaimed."

The December 6 listing regulation and the July 1 technical correction notice take the position that wastewater reclamation at wood-preserving plants begins when filtration begins. But this leaves large volumes of usable "wastes" (and wastewaters,

<sup>4</sup> Generally, materials that are recycled or reclaimed remain "solid wastes" if they are (i) used in a manner constituting disposal, (ii) burned for energy recovery, (iii) reclaimed, or (iv) accumulated speculatively [40 CFR 262.2].

<sup>5</sup> 55 Fed. Reg. 50460, December 6, 1990.

<sup>6</sup> 56 Fed. Reg. 30192.

including stormwater collected on wood-preserving drip pads) needlessly subject to Subtitle C regulation before filtration begins, despite the fact that these materials never leave the facility—indeed, they never escape from the drip pad, an engineered, lined device built to EPA specifications and designed to contain process wastes. Nevertheless, these newly generated “hazardous wastes” will be subject to State generator taxes and other waste-reporting requirements.

Under development at the Agency is an important plan that we believe could lead to major and long overdue changes in the definition of and management standards for recycled hazardous wastes under RCRA. As we understand the Agency's thinking at this time, the plan could reduce drastically or eliminate entirely Subtitle C requirements for certain wastes (including woodpreserving wastes) that are reclaimed at the plant where they are generated.

Our hope is that EPA will develop a regulatory proposal that would exempt certain waste streams from Subtitle C on a generic basis. The latest plan would seem to cover all facilities that meet national waste criteria. “There may be some materials that are recycled in well-defined management schemes that can be excluded nationally or with only minimal site-specific oversight,” according to a draft of the OSW plan. Because EPA is prone to delay, we believe that Congress ought to codify this approach in the law itself.

Congress ought to exclude completely from Subtitle C those residuals (i.e., process waters and wastewaters) that are inserted into an industrial process or are otherwise beneficially reused at a generating facility. The Court of Appeals invited exactly this result in 1990 (AMC II) when it encouraged Congress to clarify the meaning of the term “discarded.”

The legislative language should be consistent with the exemption for reused materials announced by the Court of Appeals in the AMC I decision and the Agency's own 1988 interpretation. This would cover all wastewaters that are “destined for immediate reuse” in the ongoing wood-preserving process. RCRA ought to recognize reclaimed wood preserving wastewaters as “an essential part of the production process.”

Under the current scheme, even those wood-preserving wastewaters that are reclaimed or beneficially reused still need to be reported as hazardous wastes before they are reclaimed by filtration or some other process.

Most wood-preserving wastewaters are not discarded. They are destined for beneficial reuse in a continuous manufacturing process. They are an essential part of the production process. (We note, however, that this does not include wastewaters that are discharged to a publicly owned treatment works under the Clean Water Act, which now are exempt from Subtitle C.) Congress should enact a new “beneficial reuse” exclusion for all industrial wastewaters that are not governed by the Clean Water Act in order to ease the costly and unnecessary administrative burdens on the industry, the EPA, and the States.

#### STATEMENT OF EDWARD L. PUCKETT, GNB INCORPORATED

Mr. Chairman and members of the subcommittee, my name is Edward L. Puckett. I am General Manager of Resource Recycling for GNB Incorporated (“GNB”) an American corporation wholly owned by Pacific Dunlop, an Australian corporation. I am pleased to submit written testimony on behalf of GNB to express our views on maximizing lead-acid battery recycling and, in particular, our recommendations on forcing this issue in legislation to amend the Resource Conservation and Recovery Act (“RCRA”).

GNB, headquartered in Mendota Heights, Minnesota, is a totally integrated battery manufacturer. GNB is the third largest U.S. manufacturer of lead-acid batteries, with numerous plants located throughout the country. GNB is heavily involved in the manufacture of batteries for both defense and civilian applications. It manufactures 100 percent of the batteries for the U.S. Navy's nuclear submarine force.

GNB also is the second largest recycler of lead in the United States. GNB's three secondary lead smelter facilities in Los Angeles, California, Frisco, Texas, and Columbus, Georgia, recycle in excess of 150,000 tons of lead a year. The recycling processes used in these plants produce secondary lead for batteries with identical metallurgical qualities and purity content as primary lead. The secondary lead produced by GNB can be used interchangeably in numerous products requiring lead.

Before offering my specific recommendations to you, I first would like to describe the relationship between the rate of domestic battery recycling and world lead prices. I include, as part of my testimony, the report prepared by the Boston Consulting Group, at the request of GNB, that demonstrates that the rate of spent bat-

tery recycling in the United States fluctuates directly with world lead prices, as reflected by the London Metals Exchange ("LME") and, to a certain extent, by the exchange rate of the dollar against the German mark or other foreign currencies.

During periods of high world lead prices, the recycling rate of spent batteries increases. Similarly, when world lead prices decline, the battery recycling rate also falls. Future softening in the world lead price will further decrease the current battery recycling rate. Other submissions may indicate that this is untrue. They are wrong!

We must underscore that a brief snapshot of the lead-acid battery recycling rate taken during high LME lead prices cannot be used as the basis for any generalizations about the secondary lead industry. Today's experience highlights this point.

In addition, there is a similarly strong relationship between the decline in world lead prices and the supply of spent batteries available for recycling at GNB's facilities. As a result of the sharp decline in current world lead prices, GNB now faces a shortage of spent batteries. To illustrate, during the period August 1990 to March 1991, lead prices fell 16 cents per pound. This represents a 32 percent drop. At the same time, GNB's receipt of spent batteries decreased 46 percent. A May 27, 1991 article in *American Metal Markets* reported a drop of at least 25 percent in secondary lead sales since the first of the year. By contrast, during the period from May to August 1990, when lead prices increased 5 cents per pound, or 11 percent, GNB's receipts of spent batteries increased 58 percent.

The sharp decline in current world lead prices also has produced a precipitous drop in the price paid for returns of spent batteries. Last year national retailers were offering consumers \$2.00 for every spent battery returned. Today the return price is a dollar and may soon plummet to 50 cents. Little economic incentive exists to return those spent batteries, and with soaring collection and delivery costs, little incentive exists for those spent batteries to be collected and delivered to the smelters. When used batteries remain uncollected, the risks of improper disposal increase.

The escalating costs, coupled with the fear of liability of manufacturers, retailers, or wholesalers under existing environmental laws—specifically, the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA")—have caused a mass exodus of entities from the battery recycling chain, further impeding the secondary lead industry's ability to collect, and recycle, used batteries. Consumers will only return scrap batteries when they will receive \$2.00 to \$3.00 a battery. When the mass merchandisers and consumers are not returning the batteries, then the recyclers must purchase the batteries from scrap dealers by bidding up the price.

As a result, there is a shortage of spent batteries. This has caused the price paid to scrap dealers for scrap lead to soar to \$2.80 or more per spent battery. With LME prices at 25 cents a pound or less, and the physical costs of recycling lead at 15 cents a pound or more, it is clear that secondary smelting is now a money loser. Most commodity analysts predict that this depressing trend will continue for at least two more years.

By contrast, primary lead continues to be produced worldwide because, in most cases, it is a co-product of zinc, copper, or silver production. For example, the U.S.S.R. has been exporting co-produced lead cheaply to gain hard currency while at the same time we are contemplating a massive financial aid package to the U.S.S.R. And for developing-country producers, which are typically State-owned, co-produced lead also is an important source of hard currency, regardless of production costs.

To solve the problems currently confronting the secondary lead industry, GNB has six recommendations: (1) a "sliding" fee on the production of domestic and imported primary lead to be imposed when the LME price of lead falls below 30 cents per pound; (2) mandatory Federal and State procurement programs with minimum content of secondary lead; (3) minimum secondary lead content in all domestic and imported batteries with tradeable credits; (4) large deposits in lieu of trade-ins to encourage return of spent batteries; (5) similar regulatory treatment of slag generated by the secondary lead and primary lead industries; and (6) enactment of H.R. 2358 to control the export of U.S. waste.

These proposals will promote recycling of spent lead-acid batteries above current levels, as well as preserve higher recycling rates during periods of low world lead prices. Some proposals involve stimulation of the demand for secondary lead to keep the recycling chain moving. Other proposals facilitate reliance on consumers and mass merchandisers as sources of spent batteries. Finally, additional proposals place secondary lead smelters on a level playing field with primary lead smelters and foreign secondary smelters.



*(1) Imposition of a Sliding Fee on the Production of Domestic and Imported Primary Lead*

First, economic incentives are necessary to offset the adverse effects of low world lead prices on the secondary lead industry and to compensate for the smelter's continually rising operational costs. To that end, we support a "sliding" fee on the production or use of all domestic and imported primary lead, including lead contained in imported products (e. g., lead-acid batteries). This "sliding" fee would be imposed when the LME price of lead falls below 30 cents per pound and thus, help to maintain a domestic price for secondary lead of at least 35 cents per pound. This approach does not violate the fundamental "national treatment" (nondiscrimination) precept of GATT. If imported lead arrives in the form of a battery, all the primary lead contained in the battery would be subject to the tax as well. Imported batteries will be presumed to contain 100 percent primary lead unless the importer proves the contrary by clear and convincing evidence. The fee will increase the value of secondary lead as well as spent batteries.

A sliding fee on primary lead, by increasing the value of secondary lead, will encourage the collection and delivery of spent lead-acid batteries to smelter facilities. It will allow secondary smelters to recover their full costs, including the acquisition price of spent batteries and operating costs, e.g., ever increasing environmental and OSHA compliance costs. And it will allow smelters to price secondary lead slightly below the price of domestic primary lead, thereby fostering the purchase of recycled lead. Revenues from the fee would be deposited in the U.S. Treasury and be used as the Congress and the administration agree.

*(2) Mandatory Federal and State Procurement Programs with Minimum Content of Secondary Lead*

Second, it is critical that the Federal Government, as the largest domestic consumer, assume a leadership role in the creation of markets for recyclable and recycled materials. Ambitious Federal procurement programs, which mandate the purchase of items produced with the highest percentage of recycled materials, are a necessary first step to stimulate demand for recycled materials. We propose that the Federal government require its agencies to purchase lead-acid batteries with a minimum content of secondary lead. We suggest 85 percent. California has already implemented a similar State procurement program.

In addition, existing purchasing practices or specifications of certain Federal departments, particularly the Department of Defense, should be carefully reviewed to ensure compliance with the new mandated Federal procurement program. As stated earlier, GNB is the exclusive supplier of batteries for the Navy's nuclear submarines. Defense Department specifications, which have remained unchanged since World War II despite vast improvements in recycling and refining technologies, require that submarine and certain missile lead-acid batteries be produced with 100 percent primary lead. This practice should be carefully examined and modified to reflect today's realities.

Moreover, the Federal Government should not act alone to stimulate markets for recycled materials. State and local governments, with their considerable purchasing power, also should be required to implement similarly aggressive procurement programs.

*(3) Minimum Secondary Lead Content in All Domestic and Imported Batteries with Tradeable Credits*

Third, an additional way to foster recycling is to require each new domestically produced or imported battery to have a defined minimum recycled lead content. The minimum recycled lead requirement would be coupled with a tradeable credit system to accommodate batteries with excess or deficient recycled lead content. Similar to the fee situation, the presumption would be that imported batteries contain 100 percent primary lead, subject to rebuttal by clear and convincing evidence.

To illustrate, one battery manufacturer produces a battery with 75 percent of recycled lead, another battery manufacturer produces a battery with 95 percent recycled lead. The minimum content requirement is 85 percent recycled lead. The manufacturer of the battery with 75 percent recycled lead would purchase a credit of 10 percent, or the surplus recycled content, from the manufacturer of the battery with 95 percent lead. This system allows battery manufacturers who cannot meet the minimum content standard to purchase credits from manufacturers who have exceeded the standard.

We recommend to you the Lead Battery Recycling Incentives Act, legislation drafted by Congressman Esteban Torres and Senator Tim Wirth and the late Sena-

tor John Heinz, as a good first step toward the implementation of a minimum content requirement.

*(4) Large Deposit in Lieu of Trade-Ins to Encourage Return of Spent Batteries*

Additional economic incentives are necessary to encourage the development of the infrastructure necessary to support battery recycling activities and to ensure an adequate supply of scrap batteries to feed smelter operations. We propose the imposition of a deposit requirement on the sale of original equipment and replacement batteries. To guarantee that the consumer has a clear economic incentive to return the scrap battery rather than discard it, the deposit should be large, in the range of \$10.00 per battery. The deposit would be collected from the consumer by new automobile dealers and retail battery outlets. A new deposit would not be charged if the consumer brings in his old battery at the time that he purchases a new one. As recyclers, we do not want the deposit money. We want the spent batteries!

*(5) Similar Regulatory Treatment of Slag Generated by the Secondary Lead and Primary Lead Industries*

The EPA currently regulates slag generated by the secondary lead industry as a hazardous waste under subtitle C of RCRA. By contrast, the EPA recently released a final rule concluding that regulation of certain mining wastes as hazardous wastes, namely, slag from primary lead smelting, is not warranted. As a result, waste slag generated by the primary smelting of lead ore will be regulated as a non-hazardous solid waste under subtitle D of RCRA. This simultaneous regulation of chemically and physically identical wastes as hazardous and nonhazardous based on industrial origin, rather than chemical and physical composition, is totally inequitable.

RCRA should be amended to provide regulation of slag generated from the processing of secondary lead as a nonhazardous solid waste. A May 1991 report prepared for the Lead Industries Association, Inc. by Industrial Economics, Incorporated concluded that lead in municipal solid waste does not pose a significant threat to public health—a finding that supports declassification of secondary slag as a hazardous waste. I have attached this report, as well as the recommendation prepared by secondary lead industry members of the Battery Recycling Regulatory Negotiation Advisory Committee to discontinue the discriminatory regulatory treatment of these slags, to amplify our position.

*(6) Enactment of H.R. 2358 to Control the Export of U.S. Waste*

Finally, I would like to commend to you H.R. 2358, the Waste Export Control Bill, introduced by Congressmen Mike Synar and Howard Wolpe. This legislation correctly recognizes that the United States, as one of the leading developed countries, must assume responsibility for the waste generated by its citizens and industries. Resolution of our domestic waste management problems will not be accomplished by unchecked waste shipments to foreign nations, particularly when the waste management laws of the recipient country, including enforcement and the granting of variances, are less strict. H.R. 2358, by placing stricter controls on the export of hazardous and nonhazardous wastes, would compel us to rely on the implementation of effective domestic waste policy, namely source reduction and recycling, to achieve a responsible, and long-term, solution to our waste problems. H.R. 2358 also will level the playing field for the regulation of recycling processes in the U.S. and foreign countries. We urge the subcommittee to consider this alternative in its deliberations on waste export control.

Finally, if legislation, as currently proposed by the subcommittee Chairman and Senator Chafee, will require recycling facilities to obtain permits for their operations, we strongly recommend that all existing recycling facilities qualify for class rather than specific permits on the date of enactment of the legislation. Absent this approach, existing recycling facilities would be subject to harassment and unnecessary expenses which they can not afford. In addition, these new costs will divert capital from necessary technical improvements to increase compliance with air, waters and RCRA requirements.

Thank you for the opportunity to submit the written testimony of GNB. We ask that you include our comments in the record of the subcommittee's review of RCRA reauthorization legislation.

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STATEMENT OF INSTITUTE OF SCRAP RECYCLING INDUSTRIES, INC.

The Institute of Scrap Recycling Industries, Inc., (ISRI) appreciates this opportunity to present its views on recycling, and in particular the recycling of potentially

hazardous materials. ISRI represents 1,800 member companies which process, broker, and consume over 90 millions tons of scrap metal, paper, glass, plastic and textiles per year. ISRI members operate at over 5,000 recycling locations, spanning the globe. ISRI members recover aluminum, copper, stainless steel, brass, bronze, zinc, iron and steel, lead, precious metals, plastics, paper, glass, and textiles which would otherwise become waste. All of these materials have been recycled by ISRI members for generations.

Nevertheless, ISRI is concerned that so-called hazardous waste recycling provisions of S. 982 and S. 976 would impinge upon—if not gut—the traditional recycling of these materials. Indeed, Sec. 403 of S. 976 would virtually replicate Subtitle C requirements for Subtitle D activities, potentially including traditional recycling. That S. 976 would require States to increase recycling rates at the same time that recyclers in these States are proposed for massive permitting and costly controls, seems to defy logic and rational explanation. The bill requires facilities which bale paper, or sort glass cullet, or shred steel or aluminum to post financial responsibility bonds with State agencies, to be subject to corrective action, closure and postclosure care, and other disposal-based environmental regulations. With clear glass cullet worth only \$50 per ton (green cullet \$10-\$20/ton), scrap steel worth \$90/ton and scrap corrugated worth \$10/ton, it is easy to see how the costs of these controls would quickly exceed the value of the commodities, thus challenging such recycling as viable proposition.

ISRI understands the subcommittee's concern with adequate regulation of disposal facilities. At the same time, the authors have acknowledged in the bill that the regime of Section 403 may not be appropriate for recycling, and have authorized States to exempt recycling. ISRI urges the subcommittee to complete that correct thought and remove traditional recycling (paper, plastic, metals, glass and textiles) from Section 403.

At the same time, ISRI does not propose to deregulate Subtitle D recycling. On the contrary, ISRI supports the provisions of S. 976, as set out in proposed Section 4012. Indeed, as part of an industry compliance program, ISRI is in the process of developing environmental guidelines for the recycling industry to ensure safe and efficient recycling. We welcome the opportunity to enter a rule-making with EPA to establish appropriate, enforceable criteria to ensure that traditional recycling, e.g. paper, metal, glass, plastic and textiles, continues to be environmentally positive.

But the standards proposed should be specific to the risks and benefits of recycling. Section 403's provisions for solid waste management permits do not allow the Agency to set appropriate standards for different types of traditional recycling activities. Instead it sets burdensome standards for recycling since they are geared toward the higher risks associated with disposal, and not those associated with recycling. The future ability of recycling, at the level envisioned in S. 976, absolutely requires regulations for recycling based on the attendant risks of recycling—not the far higher risks of waste disposal.

With regard to the issue of hazardous waste recycling, ISRI believes that the Congress needs to be as specific as possible regarding what should remain in Subtitle D, versus what will fall into Subtitle C. The blind application of Subtitle C controls and toxicity characteristic tests to recycling, without full appreciation of the possible unintended consequences of that action, could prove disastrous for recycling, and for waste management policy. ISRI is concerned that requiring the existing toxicity characteristic tests (EPA's "tclp" program) to be applied to recyclables will render traditional recyclables, which can be recovered at little or no environmental risk, as potentially "hazardous." The tclp attempts to replicate the amount of leachate that would result from permanent land-disposal of a given material. It requires that one grind the material in question down to a fine level, and then put the fines into acid for an extended period of time. The test in no way replicates that exposures that might occur from processing metals, paper, glass, plastic or textiles in a recycling environment. Materials with little or no environmental exposure might be deemed hazardous based solely on their possible hazards if permanently disposed of. The inapplicability of such a test to recycling—where materials are not placed in acidic soil and are stored only long enough to find a buyer—is manifest. But in fact, it would be physically impossible to perform the test on automobiles and other recyclables. How can one get a representative sample of everything in an automobile into a tiny sample of 100 grams or less with no part of that same over 9.5 millimeters? To even conceive of somehow reducing a 2,500-3,000 pound car to a 100 gram, with a maximum dimension of each particle to be less than 9.5 millimeter representative sample demonstrates the issue.

And what do we do if the "car sample" tests "hazardous" under TCLP?

Managing the car as a "hazardous waste" under S. 976's proposed Section 3004(y) of RCRA could impose costs exceeding the value of the recovered scrap by several orders of magnitude. Moreover, if the "car sample" failed, the movement of the hulk from an auto dismantler to the processing facility would require a manifest and a hazardous waste hauler, further adding cost. Finally, the owner of the hulk (e.g. an auto wrecker) would be generating a hazardous waste and need the proper authorization to do so. Yet, because the car could be deemed "household hazardous waste," the municipality could dispose of it in an unlined landfill. Thus, while ISRI members wouldn't be able to handle it as a recyclable thereby providing significant volumes of materials to be used in place of the virgin alternative, while saving valuable landfill space, the local community would be encouraged by the law to dispose of this perfectly recyclable item.

By not clearly excluding metals and alloys in non-dispersible form from either Senator Chafee's S. 982, or Senator Baucus' proposed hazardous waste recycling regime, the bills run the risk of standing RCRA on its head, making disposal of recoverable materials the order of the day. (The sources of potential "hazardous" readings in the small sample include chromium imbedded in a stainless steel or chrome plated bumper, cadmium coatings applied to certain key bolts on the auto frame and mercury in certain electric switches on the vehicle).

ISRI believes that these legislative oversights can be easily rectified. To assist the subcommittee we have attached draft language, written in the form of amendments to S. 976. We are uncertain as to how to proceed with S. 982, but would urge that if the subcommittee prefers that approach, the provisions categorically exclude traditional recyclables, non-dispersible metal, paper, glass, plastic and textiles from coverage in order to avoid harm to these commodities. Again, we do not propose to deregulate this type of recycling, but urge that Section 4012 of S. 976 be explicitly designated as the regulatory regime for these commodities.

We appreciate the subcommittee's interest in, and support for, safe and successful recycling.

#### STATEMENT OF MOBIL OIL CORPORATION

Mobil Oil Corporation takes this opportunity to submit the following statement for the record of the hearing on Hazardous Waste Recycling of S. 976, the Resource Conservation and Recovery Act Amendments of 1991, conducted on September 13, 1991.

Mobil Oil Corporation operates five petroleum refineries in the United States, is vitally interested in the minimization of waste of all kinds (particularly hazardous wastes), and relies heavily upon the practice of recycling materials into useful products so as to avoid generating wastes. By preferring recycling over waste generation, we are able to minimize offset hazardous waste transportation, treatment and disposal, a more costly and potentially less desirable alternative. We believe that the provisions of S. 976 relating to the regulation and recycling of hazardous secondary materials, as currently proposed, would severely inhibit the use of a recognized, highly beneficial recycling practice known as sludge coking. Its use is widespread; besides four Mobil refineries, twenty-one other domestic refineries also employ the sludge coking process to recycle hazardous and nonhazardous materials that are generated in the petroleum refining industry.

The sludge coking process is used to recycle hydrocarbon-bearing sludges such as those generated during primary and secondary treatment operations at a refinery's wastewater treatment plant. This process was developed by Mobil and patented in the early 1970's. It was recognized as a beneficial recycling practice through a specific exemption in the 1984 Hazardous and Solid Waste Amendments (HWSA) which excluded this process and the resulting petroleum coke product from regulation as a hazardous waste fuel. [See § 3004(q)(2)(A)]. We believe that sludge coking is totally in keeping with the original intent of RCRA, i.e., resource recovery and conservation of valuable materials, and that it should continue to be afforded the same exemption from unnecessary regulation it now receives. However, as proposed, S. 976 would impose a disincentive upon its use with no corresponding increase in protection of human health and the environment.

#### WHAT IS SLUDGE COKING?

The sludge coking process can be described simply as the controlled injection of oil hazardous and nonhazardous materials during the normal operation of a refinery's delayed coker unit. The coker unit produces intermediate process streams and final products from the heavy petroleum fractions that are present in the raw crude

oil that is processed in a refinery. The feed to the coker is heated to approximately 900 degrees Fahrenheit and then routed to large, sealed coke drums where liquid hydrocarbon turns to solid petroleum coke, a porous coal-like substance. The petroleum coke must meet strict product specifications prior to its sale to customers for use as a supplemental fuel in industrial boilers or for use in the manufacture of anodes used in the aluminum industry.

Once the petroleum coke has formed, it is cooled so that it can be removed from the coke drum. Mobil's sludge coking process is employed in the cooling operation. Oily sludges, comprised of water, hydrocarbon, and oily solids, are introduced into the coke drum. Because the coke is very hot (more than 600 degrees Fahrenheit), the water and most of the hydrocarbons are vaporized during the cooling process and are subsequently recovered in the coker's hydrocarbon recovery system. The oily solids present in the sludge are dispersed through the porous coke bed where they are physically/chemically transformed into petroleum coke product. After a short time, sludge injection is discontinued and further cooling is accomplished using water. Once the coke is sufficiently cooled, it is cut from the drum using high pressure water. The solid coke is then shipped to industrial customers.

It is important to note that the amount of oily sludge that is recycled using this process is small when compared to the overall volume of petroleum coke produced. Considering the fact that all of the water and much of the hydrocarbons are vaporized, separated (from the petroleum coke), and recovered, the mass of oily sludge solids represents less than 1.0 percent of the total mass of petroleum coke produced. RCRA TCLP test results have shown that neither the coke product nor the residual ash produced upon combustion of the coke meet the RCRA toxicity characteristic for any hazardous constituent.

Several years ago USEPA representatives visited one of our petroleum refineries to review the sludge coking process and concluded that it represented a satisfactory recycling practice. Exhibit 1 provides USEPA's trip report dated March 30, 1987 which details their observations regarding the sludge coking process. Exhibit 2 provides an excerpt from USEPA's Draft EIS Background Information Document For Proposed RCRA Air Emissions which discusses the sludge coking process.

#### S. 976 WILL INHIBIT THE USE OF THIS BENEFICIAL RECYCLING PRACTICE

In its current form S. 976 would subject an entire new class of materials to RCRA Subtitle C regulation as "hazardous secondary materials". [See § 405(b), proposed RCRA 3004(y).]

Hazardous secondary materials are there defined as: "a secondary material that is recycled and would be required to be managed as a hazardous waste, except for the fact that it is not discarded." [See § 104, proposed RCRA 1004 (46).]

Secondary materials are defined in the bill as: "Any intentional or unintentional byproduct or process residue that is recycled that results from any manufacturing, extraction, servicing, or other processing (including pollution control) or use, or any material that is spent, contaminated, or out of date, and is recycled and would be a solid waste except for the fact that it is not discarded."

A review of these two definitions leads to the conclusion that many of the materials currently recycled via the sludge coking process would become regulated as "hazardous secondary materials."

The sludge coking process is currently exempt from RCRA regulation, as is the petroleum coke that is produced. This offers distinct advantages in that the coker unit is not a RCRA-regulated unit, materials sent to the coker do not require a RCRA permit for storage before processing, and the coke product does not have to be manifested nor characterized as a hazardous waste fuel. Exemption from the bureaucratic burden of RCRA permitting serves as an incentive to encourage this environmentally sound recycling practice without risking environmental damage. Additionally, the entire recycling operation is not subject to RCRA permitting requirements nor does it constitute a basis for RCRA corrective action requirements. Under S. 976 these significant regulatory benefits would either be eliminated or greatly reduced, thereby diminishing a significant incentive to employ sludge coking.

#### POTENTIAL REGULATORY IMPACTS OF S. 976

Although the bill directs EPA to "appropriately encourage environmentally sound recycling by addressing the particular needs and unique operations of certain recycling facilities", it also imposes recycling standards that must protect human health

and the environment "to the same degree" as for hazardous wastes. [See § 405(b), proposed RCRA 3004(y)(1).] These recycling standards, at a minimum, require: corrective action; the management of any recycling residue as a hazardous waste if such residue is "derived from a hazardous waste listed under § 3001"; financial assurance; and periodic inspections.

In addition to recycling standards, all facilities managing hazardous secondary materials would be subject to RCRA permitting requirements and all that entails. The bill would revise RCRA § 3004(a)(7) to require facilities managing hazardous secondary materials to be in "compliance with the requirements of § 3005 respecting permits for recycling, treatment, storage, or disposal. Although the bill provides for "permits by rule" they are available "only if the Administrator determines that no single facility or recycling unit of such class has the potential for significant damage to human health and the environment and that the class will have minimal cumulative adverse effect on human health and the environment." [See § 405(c), proposed RCRA 3005(k)(4)(B).] Meeting this criterion is likely to be exceedingly difficult for any industry or industrial process.

Since neither refineries nor coking units are likely to meet this stringent standard, individual permitting would be required, (e.g., modification of existing RCRA permits). Other requirements would include the redevelopment of a facility's contingency plan, waste analysis plan, inspection plan, training plan, financial assurance, closure and post-closure plans, etc., to reflect the broadened scope of the RCRA regulations and to ensure that newly-regulated recycling facilities meet RCRA standards. Because the proposed bill extends hazardous waste standards to previously exempt recycling activities, it will greatly broaden the scope of RCRA regulation and unnecessarily burden the regulated community with permit modifications, plan revisions and corrective actions which will result in no commensurate increase in protection of human health or the environment.

Although S. 976 includes two narrow regulatory exemptions from the hazardous secondary materials standards and permitting requirements [those exemptions being for 1) direct reuse recycling as outlined in 40 CFR 261.2(e); and (2) closed loop recycling as discussed in 40 CFR 261.4(a)(8), see § 405(b), proposed RCRA 3004(h)(4)], these exemptions would not apply to materials which are "used to produce a fuel." [See 40 CFR 261.2(e)(2)(ii) and 261.4(a)(8)(iv).] Since petroleum coke is subsequently burned as a fuel, the materials used to produce that product would not be exempt under the proposed bill as currently drafted.

In short, if S. 976 became law, the significant regulatory incentive to employ sludge coking would be greatly diminished, or perhaps eliminated, resulting in the possible loss of this beneficial recycling practice in favor of less cost-effective, less environmentally desirable alternatives.

#### ALTERNATIVES TO SLUDGE COKING ARE LIMITED, COSTLY AND LACK BENEFIT

Apart from land disposal, the primary alternative to sludge coking is waste generation and subsequent treatment/disposal in a hazardous waste incinerator. We believe that the sludge coking process is a more environmentally sound option because it recovers and reuses resources rather than destroying them, as is the case with incineration. From a business perspective, incineration represents a costly option which appears to present a potential problem of insufficient capacity. Available incineration capacity is certain to become more constrained as S. 976 encompasses a broad universe of previously unregulated materials.

Perhaps the strongest argument in favor of the continued exemption of the sludge coking process is the fact that it recovers resources and transforms them into a valuable, saleable product. For this reason alone it makes good business sense to allow the continued exemption of the sludge coking process from RCRA regulation to further encourage this environmentally beneficial practice. If exempted, the sludge coking process will continue to provide the means for the efficient reuse and recovery of valuable resources with no significant risk to human health or the environment. We believe that it is not the intention of the Senate Environmental Protection Subcommittee to restrict unnecessarily the use of environmentally sound recycling practices.

We would be pleased to meet with representatives of the Environmental Protection Subcommittee to discuss this important issue further or provide any supplemental information desired.

[Exhibits appended to this statement have been retained in committee files.]

STATEMENT OF C.A. DOUTHITT, PRESIDENT, NATIONAL ASSOCIATION OF CHEMICAL RECYCLERS

The National Association of Chemical Recyclers (NACR) is an association representing commercial hazardous secondary materials recyclers. All NACR member companies are permitted and regulated under subtitle C of the Resource Conservation and Recovery Act (RCRA) as storage facilities. In addition, members comply with a myriad of other Federal and State regulations relating to water, air, safety and transportation standards. Operating over 100 facilities nationwide, NACR members provide recycling services to more than 500,000 large and small quantity generators; servicing all types of manufacturers, from large automobile makers and pharmaceutical companies to local dry cleaners and automobile body shops. Collecting over 400 million gallons of hazardous spent materials from various generators annually, NACR members process these spent chemicals for reuse. Those chemicals unsuitable for reuse are processed into fuel and used to manufacture cement and light-weight aggregate. By recycling spent chemicals we achieve three of the primary environmental objectives set forth in RCRA: 1) decreases in the need for the manufacture of new chemicals, 2) real reductions in the quantity of waste destined for disposal, and 3) conservation of valuable natural resources.

The NACR is represented in the testimony presented before this subcommittee by Edgar J. Marston, III on behalf of the NACR, the Cement Kiln Recycling Association, the Portland Cement Association, and the American Cement Alliance. The NACR also takes this opportunity to address additional issues of concern in S. 976 unique to hazardous waste recyclers.

As you well know, the reauthorization of RCRA is the single most important item on the environmental agenda during the 102nd Congress. To date, the issue of recycling has received tremendous attention before this Subcommittee and other arenas, particularly "sham recycling". It is important to note, however, that a great deal of legitimate, environmentally beneficial recycling is occurring today, and some forms of recycling are already regulated at considerable cost. For example, NACR facilities, like other permitted hazardous waste facilities, comply with the stringent technical and financial requirements of the RCRA, Hazardous Materials Transportation Act (HMTA), occupational safety and Health Act (OSHA), Clean Air Act (CAA), Clean Water Act (CWA) and various State and local regulations. As a footnote, the subcommittee may be interested in knowing that a recent report conducted by The Freedonia Group, Inc. predicts that the commercial solvent recycling industry will continue to experience increased concentration. The report estimates that there are approximately 75 off-site recycling firms today and there will be as few as 50 firms operating by 1995 due to the high costs of complying with increased regulations.

As RCRA-regulated facilities, the members of the NACR support the provisions of S. 976 to extend regulatory standards to hazardous waste recyclers currently not regulated, whether the activity is done on site (in stationary or mobile units), or off site. This will bring all recycling operations under a comparable regulatory umbrella and ensure environmentally sound recycling. The permit by rule requirements set forth in S. 976 will not only further protect the environment, but will also level the economic playing field and reduce the risk of so called "sham recyclers" tainting legitimate recyclers' reputation.

Based on NACR members' experience with the current Subtitle C requirements, the NACR raises the following concerns for your consideration:

1. *Recycling permits:* We support regulations for existing facilities which currently do not qualify as storage facilities and, therefore, are not regulated. However, it is our understanding that in addition to minimum standards for the handling and storage of waste, the permit by rule provisions would also regulate the recycling equipment and processes. NACR members believe that it is not necessary to require recyclers currently regulated under Subtitle C to obtain a permit by rule also. The EPA has sufficient authority to regulate treatment, storage and disposal facilities' (TSDFs') recycling operations. For example, NACR members must comply with TSDF air emission standards promulgated under RCRA. These requirements are not only for the storage units but also extend to the reclamation processes.

However, should currently regulated recyclers also be subject to the permit by rule provisions called for in S. 976, we recommend that TSDFs be eligible for interim status for the newly regulated components so as not to disrupt their current operations.

2. *Process Modifications:* We would also point out that to respond to changing waste streams, it may be necessary for recyclers to modify existing recycling processes in a timely manner. It is essential that recyclers have some operational flexibility to improve an existing system with limited permit modification requirements.

For example, in the Clean Air Act, Congress calls for the phase out and elimination of certain ozone-depleting chemicals. As a result, industries have begun utilizing substitutes, and NACR members are conducting research to find the most productive way to recycle these new chemicals. What recyclers have discovered is that they will need to make some modifications to their current recycling processes. To better respond to generators' demands and to divert waste from disposal, the recycler needs to have the flexibility to make timely process modifications. Knowing the problems posed by the current permit modification process, the NACR recommends that existing system improvements require notification only.

**3. Innovative Technologies:** The recycling industry is continually developing technologies to maximize the benefits of recycling in an effort to meet changing market demands and to better protect the environment. To provide for and encourage the development of new recycling technologies, the NACR recommends that provisions for the research and development of innovative recycling technologies, similar to those currently in place for treatment, be included in the bill.

Moreover, with the advancement of recycling technologies, the NACR further recommends that recyclers be allowed to install proven technologies in a timely manner. Because of the time delays inherent in the current permit process, the NACR recommends that provisions be included to provide for expediting permit modification approval of proven technologies. For example, upon notification the EPA or regulating authority would have 60 days in which to explain why such a procedure is or is not satisfactory.

**4. Used oil:** The NACR members support regulations for used oil handlers and recyclers. Currently many NACR members blend spent chemicals with used oil to produce waste-derived fuels. These fuels are handled as a hazardous waste. They are tested to ensure that they meet stringent specifications for burning for energy recovery as a hazardous waste in cement and light-weight aggregate kilns. We take this opportunity to direct your attention to the language in S. 976, Sec. 406(e) "Prohibition on Mixing with Hazardous Waste." We recognize and support your interest in discouraging the indiscriminate mixing of used oil with hazardous waste; however, because the generation, blending, marketing and burning of hazardous waste fuels are already regulated by RCRA, there is no reason to prohibit facilities engaged in these activities from recycling used oil with hazardous waste. Therefore, we recommend that language be included to allow for mixing of such mixture is handled as a hazardous waste. We suggest the following language: (suggested changes in bold)

Sec. 406 "(e) Prohibition On Mixing With Hazardous Waste.—Regulations promulgated under this section shall prohibit, following original use, mixing used oil with any quantity of hazardous waste identified or listed under this subtitle except in any case in which (1) **such mixture is managed as a hazardous waste;** or (2) such mixing involves an identified hazardous waste and the resulting mixture does not exhibit a characteristic identified in regulations under section 3001(b); and (3) the used oil mixture is burned to recover useful energy in a type of device determined by the Administrator to be designed and operated at a destruction and removal efficiency sufficient to ensure protection of human health and the environment. . . ."

**5. Toxics Use and Source Reduction:** The NACR supports efforts to reduce waste at the source; however, we believe inclusion of recycling in all aspects of any national waste minimization program is important because many wastes cannot be reduced to zero; regulated recycling is the next best solution.

Finally, the NACR takes this opportunity to reiterate its support for the recognition that fuel substitution of hazardous waste-derived materials for fossil fuels is beneficial reuse. Therefore the definition of recycling should include fuel substitution so as to channel appropriate recycling incentives to this form of recycling.

Thank you for this opportunity to bring our concerns to your attention.

#### STATEMENT OF THE NATIONAL ENVIRONMENTAL DEVELOPMENT ASSOCIATION

The National Environmental Development Association's Resource Conservation and Recovery Act (NEDA/RCRA) Project is an industry membership organization dedicated to fulfilling the public's demands for a clean and healthy environment and continued economic development and growth. Members are drawn from the aluminum, chemical, consumer products, electronics, mining, petroleum and pharmaceutical industries. These companies share a commitment to striking a balance between environmental and economic issues in the development of environmental



policy and have formed a cross-industry coalition to address the reauthorization of the Resource Conservation and Recovery Act (RCRA). NEDA/RCRA is pleased to submit the following statement concerning Title IV of S. 976, the Resource Conservation and Recovery Act Amendments of 1991.

In making this statement, we are joined by the New England Council, which is a unique organization composed of businesses and institutions dedicated to improving the economic vitality and the overall quality of life in the six-State region. The Council is the nation's oldest regional business association and a successful example of regional cooperation in the United States. Council membership includes manufacturers, professional and financial services, wholesale and retail distributors, utilities, health care facilities and educational institutions.

NEDA/RCRA and the Council commend the subcommittee for examining the critically important issues contained within Title IV. These issues are perhaps some of the most complex and challenging issues in today's RCRA program. We support the legislative intent behind many of the provisions but believe that some provisions will hamper the nation's industrial competitiveness by excessive reliance on command and control approaches and Federal regulation that ignore the range of risks posed by materials covered.

#### INDUSTRIAL NON-HAZARDOUS WASTE PROVISIONS

##### *General Approach*

The universe of non-hazardous industrial wastes administered under RCRA Subtitle D is vast and diverse, encompassing an annual waste stream of 7.6 billion tons handled by more than 12,000 facilities nationwide, including industrial landfills, surface impoundments, injection wells, land application facilities and waste piles. More than 95 percent of non-hazardous industrial wastes are disposed of in landfills and surface impoundments.

Detailed information about the composition of this waste and its effects on human health and the environment is somewhat limited. In general, however, much of this waste consists of dilute, low-toxicity materials such as food processing residues, iron and steel slag, construction debris, sand and gravel, and process waste waters. The available studies indicate that the risks posed by these wastes range from generally negligible to more serious in cases where sensitive ecosystems are subject to infusions of poorly managed wastes.

Public concerns over the handling of these wastes and the capacity of the States to administer the program have arisen in response to well-publicized problems. These concerns could generate pressure to amend RCRA to greatly expand Federal Government involvement in the permitting process or even to regulate industrial non-hazardous wastes under a subtitle C-like program.

NEDA/RCRA and the Council believe that these measures would be ill-advised. With few exceptions, the major focus of the national waste management effort has been on hazardous waste, and any shortcomings in the implementation of Subtitle D are primarily the result of an insufficient commitment of Federal and State resources. Regulating industrial non-hazardous wastes under subtitle C or in a modified subtitle C-like program would inappropriately burden the current environmentally safe handling of most of these wastes. For example, subtitle C-like tracking of these wastes would create a costly administrative program for the regulating agency and the regulated community with little "real-time" benefit. Moreover, given the great size of the industrial waste universe, a massive increase in permitting requirements along the lines of the subtitle C model is doomed to failure. The subtitle C permitting record is no better than indifferent, even though the waste stream and facility universe are minuscule by comparison to those covered under Subtitle D.

We believe that a properly structured Subtitle D program is necessary to ensure responsible and effective handling of industrial non-hazardous wastes. Several things must happen in order to create a program with the necessary robustness.

First, the current relationship between the Federal Government and the States should be retained, and the overall level of activity increased. The existing division of responsibility makes sense because State and local governments must continue to be involved in local planning and facility siting decisions and because they can best provide the resources to administer the permitting and performance-monitoring requirements for the 226,000-plus non-hazardous waste units. The Federal role, through the Environmental Protection Agency, should be to provide technical assistance to help resolve local problems.

Second, any response to the permitting problem must involve the following points:

- The Federal Government should require that Subtitle D land-based treatment or disposal units have State permits. These permits should be either permits-by-rule or class permits.

- The Federal Government should require permit status notifications from all Subtitle D disposal and treatment facilities. These could be used to assess the universe of State-permitted facilities to be considered part of an approvable State Solid Waste Plan.

- States should retain the discretion to permit Subtitle D storage and recycling facilities to protect human health and the environment.

- Exceptions to this plan for Federal oversight of Subtitle D permitting should only be made on a case-by-case, waste-specific basis. For example, in cases where a particular class of waste poses a sufficient threat to human health and the environment to warrant tighter control, but not inclusion within Subtitle C, we believe more specific Federal waste management criteria may be justified.

This approach would continue to place the burden for siting subtitle D facilities where it belongs: with State and local governments. It ensures that the Federal Government can continue to devote its resources to its highest priority, hazardous waste management. The notification provision and on-going involvement in the approval process for State solid Waste Plans would give the Federal Government the information necessary to monitor State permitting efforts without retarding the siting process.

#### *Comments on Section 403 and 404*

With regard to the approach outlined in S. 976, NEDA/RCRA and the Council offer the following comments on the provisions contained in Sections 403 and 404.

We believe that while the permitting provisions of section 403 attempt to provide the necessary flexibility, in practice they may be of limited value. Foremost among our concerns is the permit-by-rule provisions. Limiting permit-by-rule authority to situations where "no single facility is likely to cause significant damage to human health or the environment" would effectively ensure that permits-by-rule would never be issued. single-facility concerns are more appropriately handled through enforcement authorities or through the "imminent endangerment" provisions of RCRA Section 7003.

In addition, given the flurry of State regulations implementing the industrial D provisions and the number of units that could be affected, it is essential to lend some certainty and stability to the permitting process in order for businesses to make sound, long-term plans. Certain provisions of Section 403, such as requiring permits to be modified within 18 months of promulgation of new standards, fail on this count. Permits are more appropriately revised at the time of renewal. This benefits not only industry but also State regulatory agencies, which would be heavily burdened by the provision.

Section 404 attempts to address the immensity of the task in the subtitle D area by focusing resources on specific categories. However, the implementational timeline is overly ambitious. The size of the subtitle D universe and the range of risks posed both suggest that a more measured approach is essential to ensuring that perceived risks are not overcontrolled and that Agency or State resources are available to complete the task. For example, to require blanket statutory liner and groundwater monitoring requirements is to ignore the fact that many of the wastes managed in industrial impoundments pose no threat to human health or the environment. The only exemption allowed requires a cumbersome site-specific demonstration of equivalency that is likely to entail significant resources. The costly impoundment requirements also appear to apply to the thousands of miles of ditches or other conveyances that may contain only stormwater or cooling water.

Most importantly, NEDA/RCRA and the Council believe that sections 403 and 404 place far too much authority in the hands of the Federal Government. While the Federal Government should be responsible for the development of minimum criteria where specific waste streams pose clear risks, the States should be responsible for developing and implementing most of the subtitle D management standards. State regulatory officials are best positioned to ensure that potential risks are controlled cost-effectively and to use the information that they collect to develop effective local plans.

#### INDUSTRIAL RECYCLING PROVISIONS

##### *The Need for Separate Regulation*

RCRA is replete with congressional directives to EPA to encourage and accommodate the recycling and reuse of waste resources. Indeed, waste minimization is a paramount national environmental goal. We believe that EPA should carefully con-

sider these directives each time it seeks to extend the jurisdiction of its regulatory program under RCRA. In particular, EPA's assessment of environmental impact must be consistent with Congress's directives. The interests of human health and the environment are best served, and the national goals of waste minimization and resource conservation best achieved, to the extent that encouraging recycling and reuse eliminates disposal of hazardous and solid waste.

However, RCRA's designation of recyclables as "hazardous waste" stigmatizes and often precludes reutilization or recovery of materials that have genuine economic value and can be reused to make beneficial products. Raw materials and/or processing supplies often have the same physical or chemical characteristics as hazardous waste, yet are generally viewed as quite manageable. But the public has been taught to view hazardous wastes as an imminent threat to health and the environment regardless of the use of appropriate safeguards, and has been misled into thinking that such materials cannot be handled safely.

This public resistance to hazardous waste, combined with existing regulations that inhibit or prevent the use of recycled materials, have made many industries that might use it correspondingly wary. Many facilities simply do not want to risk the public's anger, even though their operations and materials handling procedures are outstanding in protecting health and the environment.

Apart from this risk, companies using recycled materials must comply with the many onerous regulations governing hazardous materials recycled under RCRA at treatment, storage or disposal (TSD) sites. Without a Subtitle C permit, onsite storage under RCRA is limited to 90 days. Yet in many cases, a small amount of hazardous material (recyclable material) may require more lengthy storage for processing in a batch operation large enough to be economical. In addition, companies that bring materials from several facilities to a central recycling location are immediately subject to permitting requirements. Subtitle C permits are expensive, time-consuming and difficult to obtain due to public resistance and the "not-in-my-backyard" syndrome. EPA regulations also designate as a hazardous waste "... any solid waste generated from the treatment, storage, or disposal ... of a [listed] hazardous waste" [40 CFR Part 261.3(6) (2) (i)]. This provision is commonly referred to as the "derived-from rule." It results in the "hazardous" designation being applied to any residue (and in some cases to the product itself) produced by the treatment, including recycling, of a hazardous secondary material—irrespective of whether the residues pose any actual risk. This is true even when only a small amount of an EPA listed hazardous waste is used in relation to virgin materials in a "non-closed-loop" manufacturing process. The only remedy to this risk-blind rule is an even greater disincentive to expanded pollution prevention efforts: companies can pursue site- and wastestream-specific delisting petitions. These petitions are expensive and time consuming for both industry and EPA. Petitions cost several hundred thousand dollars to prepare and require an average of two years to process. Only 12 percent are generally approved.

NEDA/RCRA and the Council believe that a more rational approach is imperative—one based on the actual, not assumed, nature of the material left as the residue of recycling.

### *The Value of Recycling Over Waste Treatment and Disposal*

Industry believes that materials should not be labeled as waste (either hazardous or non-hazardous) unless they have no economic value or are consciously disposed of despite their value. Recycling includes the recovery of economic value from materials that can no longer serve their original purposes. The reuse and/or reclaiming of a material is recycling, regardless of the number of processing steps required in the recovery operation.

Recycling is of major importance to industry and the national economy, both to reduce manufacturing costs and to prevent further liabilities as the result of land disposal. However, a common misconception is that industry can instantaneously modify processes and stop generating wastes, hazardous or non-hazardous.

This is seldom possible in practice. Materials can sometimes be substituted so that non-hazardous wastes are produced. Some industrial processes can be modified or redesigned to avoid the generation of hazardous waste altogether. However, most industrial processes can only be fine-tuned to generate minimum hazardous waste because of the nature of the processes required.

Many of these waste streams contain materials of some economic value. But a single component of the waste stream can subject the entire stream to the restrictions of the hazardous waste regulations. The almost inevitable effect is the management by incineration or other treatment prior to land disposal.

This is why the recycling of materials that would otherwise be disposed of as hazardous waste is important to industry and the nation: It provides a means of handling, in an environmentally sound manner, secondary materials from which valuable resources can be recovered—thereby reducing both the need for additional hazardous waste treatment/disposal capacity and virgin materials. In addition, environmentally sound recycling may also eliminate future environmental and financial liabilities associated with the long-term uncertainties associated with disposal, potentially reduce manufacturing costs and promote resource conservation.

The current hazardous waste designation of many materials has caused the loss of opportunities for recycling and reuse. Because recycling is now subject to the regulatory controls for hazardous waste treatment and disposal, the long-standing and economically justifiable practice of recovering valuable material from previously used materials has, in some cases, been abandoned and replaced by disposal. This practical reaction to the onslaught of hazardous waste regulation is the exact opposite of what Congress intended under RCRA.

To accomplish its recycling and waste minimization objectives, EPA should develop a new regulatory system under RCRA which would make a distinction between waste materials which are destined for disposal and those materials which are recyclable and recycled. The new RCRA system should address the special issues associated with the recycling process.

NEDA/RCRA and the Council are convinced that a RCRA recycling program can be developed and administered by EPA to meet the dual objectives of protecting health and the environment without disadvantaging recycling compared to the use of virgin material. Implementation of the program should ensure that the use of the recycled material would not result in significantly greater potential to adversely impact human health or the environment than would the processing or use of a comparable raw material or product in its original form. Impacts associated with disposal verses recycling of the material would also be evaluated along with a determination concerning its substantial value and effectiveness as a substitute as a raw material, or product, when compared to the material that it is replacing.

#### *Elements of a New Recycling Program*

Implementation of such a program would first require a clarification of the scope of RCRA to distinguish between those materials destined for disposal and those destined for recycling.

The revised program would identify the materials to be regulated as recycled materials. Materials currently covered under closed-loop exemptions or other existing solid waste exemptions would not be regulated as recycled material or as a solid waste. These include those materials described at 40 CFR Part 261.2(e):

- Materials that are used or reused as an effective substitute for a commercial product;
- Materials returned to original or similar processes by which they were generated; and
- Materials used without reclamation to make a product.

In its rulemakings, EPA has carefully evaluated the factual situation surrounding these and other exemptions and has determined that these activities are integrally related to the production process and do not warrant regulation as waste management. However, many legitimate recycling operations have been found to be subject to EPA RCRA jurisdiction. It is those materials that are at issue.

In developing the regulatory structure of the new program, EPA should consider a certification and notification approach coupled with the establishment of performance standards and direct management requirements. A person recycling a material which would otherwise be a waste could apply to be regulated under the recycling program or continue to be regulated as if the material were waste. Such a system would encourage beneficial recycling while giving EPA the necessary enforcement tools to guard against "sham recycling." A complicated permitting process, as currently exists under subtitle C, must be avoided.

Key components of the regulatory program should include the following:

- Requirement for notification in writing to EPA to apply for coverage under the new recycling program.
- Requirement for appropriate public disclosure.
- Demonstration that the facility is engaged in legitimate recycling.
- Compliance with all applicable Clean Air Act, Clean Water Act, Occupational Health and Safety Act and other environmental and health statutes and regulations that apply to the recycling facility.
- Analysis of materials entering the recycling facility.

- Determination of the regulatory status of residues at the end of the recycling process. The "derived from" rule would not apply.
- Compliance with applicable RCRA waste disposal regulations for those residual materials that must be disposed.
- A manifest system for material being shipped off-site describing the type and quantity of material being shipped.
- Proper handling and storage requirements to address the issue of "speculative accumulation" by limiting the time over which such material may be stored prior to recycling.
- Adequate restrictions regarding the mixing of recycled material with solid or hazardous wastes.
- On-site recordkeeping requirements concerning the manner in which the material is used, reused or reclaimed, including records relating to the type, quantity and disposition of such materials.
- The establishment by the EPA of performance/management standards where necessary to protect human health and the environment.

#### *Controls for Waste-Derived Products*

Products should be regulated to the degree that they pose a risk to health, safety or the environment. The risk that a chemical creates depends on its inherent toxicity and the concentration, duration and frequency of exposure to it.

The Toxic Substances Control Act (TSCA) provides a ready vehicle for regulating both virgin and recycled material equally. TSCA provides the authority to regulate all aspects of chemical production, processing, distribution, use and disposal.

Under TSCA section 6, EPA can regulate chemicals that are already in commerce. Under this section of the law, the Agency can:

- prohibit or limit the use of a substance in excess of specified concentrations;
- require warnings or instructions for a chemical; and
- impose recordkeeping requirements for a substance.

TSCA clearly provides EPA with all the authority necessary to protect against risks to health, safety and the environment. The Agency is now streamlining its administration of the law to make it more efficient and to enable it to regulate chemicals using fewer resources. We understand that the Agency plans to put more emphasis on regulating existing chemicals in the revamped program. We also understand that the new chemicals program is working well, and the Agency is shifting relatively greater resources to regulate the risks of chemicals already in commerce.

Imposing additional requirements on recycled materials is not consistent with the policy of encouraging recycling and the use of recycled material. Additional regulation, costs and administrative delays would make recycled materials less attractive to potential users by increasing costs of recyclable materials and would thus encourage the greater use of substances created from virgin materials.

In addition, there are other regulations and statutes that regulate product development and use. To regulate recycled materials, EPA or other Federal agencies could use the existing authorities under the Consumer Product safety Act, the Food and Drug Act, and Federal Insecticide, Fungicide and Rodenticide Act.

Finally, concerns about product liability have made companies extremely cautious about marketing products which could be conceived to be a potential risk to human health and the environment. Financial risks associated with the present system of awarding damages have caused some companies not to manufacture products or engage in operations that might lead to even a remote chance of such liability. Waste-derived products are certainly no exception. Companies engaged in such operations are sensitive to both public perception and potential liabilities.

#### *Comments on Section 405 and S. 982*

NEDA/RCRA and the Council believe that while the subcommittee attempts to remedy the existing problem, the drafted cure may kill the patient. The legislative framework established in S. 976 and S. 982 continues to regulate the materials under the inappropriate hazardous waste treatment and disposal umbrella. We understand the subcommittee's desire to ensure that EPA has adequate authority over recycling. However, the proposed solutions would continue to severely disadvantage legitimate recycling when compared to virgin material processing and force continued, unnecessary reliance on treatment and disposal.

Both S. 976 and S. 982 are overly expansive in scope with respect to the recycling of materials that meet a listing description or exhibit a hazardous characteristic. EPA and affected parties have spent many years distinguishing between production-like processes and waste management-like activities. The results of these labors are the current exemptions and exclusions found in 40 CFR Part 261. Both legislative approaches, as currently drafted, call in question the deliberative process of the past

decade. Furthermore, some of the language would suggest that even non-secondary materials are subject to RCRA jurisdiction.

Both S. 976 and S. 982 fail to adequately remedy the current problems presented by the mixture and derived-from rules. Residues from recycling operations should be evaluated on their own merit. If the residue exhibits a hazardous characteristic and is destined for disposal, it should be subject to subtitle C. In addition, under existing statutory authority EPA may specifically list residues from recycling operations as hazardous waste, e.g., still bottoms from the recovery of spent solvents.

Finally, the permit schemes envisioned in both S. 976 and S. 982 are likely to result in even less legitimate recycling than is currently occurring. S. 976's permit-by-rule authority is again restricted by the "single facility" concern. We believe the more appropriate tool to address single facility concerns is vigorous use of enforcement authority. Also, S. 976 fails to recognize the legitimacy of energy recovery activities. Energy recovery activities are in most cases already addressed by the EPA's recent Boiler and Industrial Furnace rulemaking. Regulation of these activities as hazardous waste incineration would effectively ensure that this beneficial recovery of energy values ceases. Both bills also include statutory hammers that would regulate all recycling as treatment or disposal, absent timely action by EPA. We are concerned that, given the press of post-enactment activity, EPA could miss this deadline with chilling results for American industry competitiveness.

Attached to our record statement is the legislative language that NEDA/RCRA has developed on the issue of industrial recycling. We ask that the subcommittee examine this language as it addresses many of the issues that we have raised in our record statement. NEDA/RCRA and the New England Council welcome the opportunity to work with the members of this Subcommittee to ensure that during this RCRA reauthorization the interests of human health and the environment are best served and the national goals of pollution prevention and resource conservation best achieved.

#### ATTACHMENT A

##### NEDA/RCRA'S PROPOSAL FOR RECYCLED MATERIALS

NEDA/RCRA proposes to establish in RCRA the authorization for a flexible program to regulate and encourage the recycling of material that would, if discarded, be solid waste or subject to EPA's hazardous waste requirements.

Removal of regulatory disincentives and adoption of a regulatory program specifically geared to reuse and recycling will contribute significantly to waste reduction. A recycled materials program would govern those materials that, if disposed of, would be regulated under Subtitle C or D of RCRA.

The principal elements of the new regulatory program would include:

- protection of human health and the environment;
- encouragement of maximum legitimate reuse and recycling of materials for either direct reuse or energy recovery;
- use of flexible regulatory approaches to foster a balance between protection of the environment and encouragement of recycling, so as to ensure that recycled materials are not disadvantaged in comparison to virgin or raw materials; and
- provisions to allow the States to administer the recycling program.

To eliminate disincentives to recycling while providing EPA with appropriate authority to regulate such materials, RCRA should be amended to authorize EPA to establish a regulatory program specifically for "recycled material." Any material subject to this program would be exempt from the requirements of RCRA subtitle C or D related to hazardous and solid waste. Such provisions would be consistent with the intent of EPA's January 26, 1989 Proposed Pollution Prevention Policy statement to fully utilize source reduction techniques and environmentally sound recycling (54 Fed. Reg. 3845).

NEDA/RCRA has therefore developed several amendments to the Federal Resource Conservation and Recovery Act. Key among them are a new definition of "recycled material" and the creation of a new and effective program for recycling, to be administered under a new subtitle K governing recycled material.

#### *New Definition of "Recycled Material"*

The scope of RCRA should be clarified to distinguish between materials destined for disposal and those destined for recycling. Materials currently covered under closed-loop exemptions or other existing solid waste exemptions would not be regulated as recycled material or as solid waste, such as those found at 40 CFR Part 261.2(e):

- materials that are used or reused as an effective substitute for a commercial product
- materials returned to original or similar process from which it was generated
- materials used without reclamation to make a new product

A definition of recycled material is key to the program. The materials meeting the definition and covered by the new recycling program would not be regulated as waste.

The new recycled material provisions are needed in order to give EPA specific guidance on the management and utilization of valuable materials that would otherwise simply become part of a burgeoning disposal problem in the United States.

Obviously, the recycling provisions must be carefully drawn to guard against "sham" recycling, which is simply disposal without beneficial effect. Sham recycling is the primary issue the environmentally active public focuses on when conceptually evaluating the merits of recycling. Industry must therefore be particularly strong in its condemnation of the practice and should be united in support of vigorous enforcement of EPA regulations against sham recycling operators.

However, a more positive regulatory approach than has been proposed to date is essential to achieve legitimate recycling. Practice and policy must be based on the fact that most substances in their original product form are calmly accepted and responsibly managed throughout the Nation every day. Just because such substances have been used in some way does not automatically render them a unique threat. A balanced approach must be taken to permit maximum legitimate utilization of materials that would otherwise become wastes. Such policies will conserve resources, minimize wastes and foster creative re-utilization of materials, thereby avoiding the creation of solid waste which must be discarded and the environmental consequences of such disposal.

#### *Performance Standards*

The new program should be structured to rely upon the establishment of performance standards and direct management requirements rather than a complicated permit program. In developing these new regulations, the EPA Administrator should be required to examine whether the use of recycled material would have greater impacts on the environment than the use of primary or virgin material. Any differences in the regulation of recycled material should be based on those greater impacts, so that use of recycled material would not suffer from a regulatory disadvantage with respect to competing, virgin materials.

The definition of recycled material is intended to make it clear that these statutory provisions do not regulate the recovery of usable material from virgin products and materials in initial processes. Direct reuse of material will be regulated in the same way normal materials handling processes are treated. Special environmental regulations should only be written to govern those aspects of recycling that involve special concerns related to reclamation, energy recovery or use of recycled material that produces adverse environmental consequences different than those of similar virgin or raw products. (Manufacturing processes that represent a potential risk to employees would, of course, continue to be regulated by OSHA, MSHA and other appropriate agencies. Similarly, direct reuse would be governed by EPA and/or State rules governing process operations.)

#### *Certification*

In order for any owner or operator of a facility or activity that stores or handles recycled material to qualify for coverage under the new RCRA subtitle, a written notice would be required to be filed with the Administrator for certification of approved recycling status. The notification and request forms would require a demonstration that the facility is in fact engaged in a legitimate recycling, not sham recycling.

In connection with the storage of materials destined for recycling, the rules and regulations of the Agency will also need to address so-called "speculative accumulation" to reasonably limit the time over which such material may be stored prior to recycling if storage goes beyond 180 days.

In determining whether a material to be recycled has economic value, the Administrator should also take into account the avoidance of costs related to disposal. Certainly the exorbitant cost of the disposal of certain recyclable materials, even if they are sold at a modest cost for such purposes, is a legitimate factor in considering whether the material has value to the recycler or subsequent user and to the generator who would otherwise be forced to dispose of the material at far greater cost. Disposal itself has adverse consequences which must be balanced against the use of that material for some valuable purpose in lieu of total disposal. This new recycling program should also contain appropriate provisions to allow the Administrator to

take into account any need for differing requirements if the material is recycled on-site or off-site, and whether by the generator or another person.

The Administrator would certify a facility or activity as a recycling facility or activity to be governed by this new subtitle if he finds that in the case of recycled material:

(1) the use of such material does not or would not result in a significantly greater potential to damage human health or the environment than would the processing or use of a comparable replacement raw material, fuel or product in its original form (including the adverse impacts if the material were disposed of instead); and

(2) such material has economic value as a raw material or product when compared to the material it is replacing; or (3) such material is an effective substitute for the material it is replacing.

#### *State Administration Option*

Finally, the new program should contain provisions allowing the States to apply to EPA for approval to administer the recycling program in lieu of the Federal Government. Administrative, civil and criminal penalties would be provided along with inspection authority.

In sum, the key concepts to be embodied in the new recycling program include:

- protection of human health and the environment;
- maximize recovery, minimize waste;
- encourage maximum efficient use of basic resources;
- recycled materials are not treated as waste materials;
- foster recycling and remove current RCRA disincentives to recycling;
- a notification, certification and standards approach should apply (rather than permitting);
- simplified administration generally; and
- States should be delegated authority to administer the program.

### STATEMENT OF THE SOCIETY OF THE PLASTICS INDUSTRY, INC.

#### INTRODUCTION

The Society of the Plastics Industry, Inc. (SPI) submits this statement to the Senate Subcommittee on Environment and Public Works Subcommittee on Environmental Protection (Subcommittee) to focus the subcommittee's attention on the impact which the industrial solid waste provisions of S. 976, primarily sections 403 and 404, would have on small businesses. As part of the subcommittee's on-going consideration of RCRA reauthorization legislation, SPI believes it can play a useful role by providing the subcommittee with the small business perspective—a perspective which might otherwise be overlooked.

This statement includes recommendations for changes in the provisions in S. 976 which would impose obligations on small businesses disproportionate to the risks to human health and the environment they would avert. SPI offers these recommendations in the hope that they will be helpful to the committee's achievement of its overall goal of protecting human health and the environment from any adverse effects which might be associated with the management of industrial solid waste. Specifically, this statement addresses the following issues:

- the inappropriateness of developing an elaborate new waste management scheme, to which all industrial wastes are subject, without distinguishing among the risks such wastes pose;
- the extent to which mechanisms which ensure protection of human health and the environment already exist, or can be expanded, to deal with the problem;
- the need to replace S. 976's "normal course of transportation" storage permit exclusion with an approach more in keeping with the existing RCRA scheme and the need to limit the burden of new regulations to those situations in which risks to human health and the environment will be avoided;
- the soundness of an alternate approach to the proposed permit requirement for all solid waste storage facilities which allows EPA to fashion appropriate controls tailored to different storage scenarios; and
- the appropriateness of accumulation period and small quantity exemptions from whatever regulatory obligations eventually may be imposed upon storage units to address the legitimate concerns of small businesses, to avoid over-taxing the regulatory system, and to avoid regulatory burdens disproportionate to the benefits they bring about.



## I. BACKGROUND ON SPI.

SPI was organized in 1937 and today represents over 2,000 member companies. SPI is the major national trade association of the plastics industry. SPI members include manufacturers of plastics resins and processors of plastic resins into finished goods. SPI submits this statement chiefly on behalf of its processor members, roughly 60 percent of whom have one hundred or fewer employees, and many of whom have fewer than fifty employees.

## II. MISPERCEPTION OF INDUSTRIAL SOLID WASTE.

There exists a widespread misperception about the nature of solid wastes generated by industry. Many believe that simply because they come from an industrial source, these wastes contain hazardous constituents. While this may be true of some industrial sectors, industrial solid wastes generated by plastic processors are for the most part similar to the wastes generated by households. The principal non-hazardous solid wastes generated by processors consist of corrugated cardboard boxes and plastic bags (in which processors receive the resins which are their principal raw material), rags, and plastic scrap. Processors use relatively few hazardous substances (solvents and the like) in their production process. Fewer still are the hazardous substances that come off the production process as waste. To the extent they generate hazardous wastes subject to Subtitle C, it is important to remember that, as a result of the Hazardous and Solid Waste Amendments of 1984, even generators of the smallest quantities of hazardous waste, under one hundred Kilograms per month, have an obligation to ensure that their waste is sent to a licensed waste management facility. 40 C.F.R. § 261.5(g)(3).

Putting aside the misperception that industrial solid waste is hazardous simply because it comes from "industry", there may nonetheless be legitimate reasons for Congress to focus its attention on this waste. The quantity produced each year is one likely reason. Informed estimates place the quantity of industrial solid waste generated each year at roughly eight billion tons—tens of times greater than the quantity of household trash. See, *U.S. EPA, Report to Congress: Solid Waste Disposal in the United States*, 11 (1988). As much as its magnitude provides an inducement to the subcommittee to attempt to impose controls on this waste, the magnitude also compels restraint. A rigid command and control approach to regulating industrial solid waste would likely dwarf all other environmental regulatory programs, imperiling the environmental regulatory infrastructure.

Moreover, quantity alone does not necessarily translate to risk to human health and the environment. Congress would be casting its net too broadly if it subjected all industrial solid waste—solely on the basis of its source and not on the basis of its potential risk to health or the environment—to the same standards of control. EPA Administrator Reilly made much the same point when he recently instructed the subcommittee:

Before we embark on a new Federal program of the magnitude in the Senate bill, we should determine which facilities are posing significant risks and what the magnitude of the costs to government and industry would be to address them. Based upon this determination, we can prioritize the necessary targets, tailor the requirements to the risk, and determine appropriate responses.

At this time we do not have sufficient information available to make any of these determinations for these general industrial D wastes. Any legislation should provide us the opportunity to determine these wastes' effect on human health and the environment, and the costs of addressing them before undertaking any regulatory action.

Statement of William K. Reilly Administrator, U.S. Environmental Protection Agency Before the subcommittee on Environmental Protection of the committee on Environment and Public Works, U.S. Senate, 18 (Sept. 17, 1991) (hereinafter "Statement of Administrator Reilly").

## III. THE EXTENT TO WHICH CONGRESS NEEDS TO ENACT NEW LAWS.

*A. Expanded Use of EPA's Existing Authority and Emerging Economic Disincentives to Waste Generation Will Work Toward the Goal of Protecting Human Health and the Environment.*

Proponents of a new regulatory scheme for industrial solid waste should reevaluate the need for such a scheme in light of existing control mechanisms and incentives. Re-evaluation is particularly necessary if the proponents' motivation for creat-

ing such a scheme is concern that leachate from landfilled waste poses a threat to human health and the environment. The problem of hazardous constituents leaching at old landfills stems from historical disposal practices—namely, land disposal of hazardous wastes and commingling of hazardous and solid waste in the same fill. EPA rules have largely prohibited those practices. For that reason they do not warrant undue concern that comparable problems will arise as a result of current and future solid waste management practices.

Leaching of hazardous constituents from industrial solid waste when landfilled is more appropriately addressed in the context of EPA's rules for identifying hazardous wastes. EPA requires identification of hazardous wastes, in part, on the basis of the wastes' exhibiting the toxicity characteristic, as determined by the toxicity characteristic leaching procedure (TCLP). The TCLP provides a mechanism to capture industrial wastes which may leach hazardous constituents when disposed of in landfills. In addition, to those who argue that some wastes currently classified as non-hazardous are toxicologically similar to waste identified as hazardous, the response must be to refine EPA's hazardous waste identification rules—not to create an altogether new scheme.

Non-hazardous industrial solid waste generated by plastic processors can be managed effectively without adverse environmental consequences as solid waste management facilities are upgraded in response to new requirements. Those new requirements were proposed some time ago, 53 Fed. Reg. 33314 (Aug. 30, 1988), and recent reports indicate their issuance is imminent.

In addition to the potential for expanding the TCLP rule and the advent of more stringent landfill controls, an emerging and powerful economic disincentive to waste generation—the increased cost of management—is also emerging. Industry is already taking steps to avoid incurring the costs of waste management, especially as those costs increase. As this economic disincentive—or conversely an incentive to waste minimization—is more fully appreciated by industry, waste generation will necessarily decrease. Less waste will be landfilled, and potential risks to human health and the environment will be diminished.

Of course, the spectre of Superfund liability is another compelling reason for plastic processors (and industry generally) to minimize waste generation. The instances in which small businesses are being asked to bear a share of the costs of cleaning up Superfund sites—mostly on the basis of past disposal of solid wastes which have, if any, a de minimis quantity of hazardous constituent—are just now attracting the attention of the national press. The Subcommittee should be aware that plastic processors are aware of this risk and have responded in an economically rational way. They have cut back on the waste they generate so that they send less to landfills, each of which is a potential future Superfund site.

As another illustration of SPI member companies' commitment to waste reduction, the subcommittee should be aware that SPI's Waste Minimization Task Group recently issued a "How To Waste Minimization Manual" for its members. This manual aids plastic processors in establishing comprehensive waste reduction plans and provides practical guidelines for all aspects of such plans.

## *B. What Additional Directives Should Congress Give EPA?*

### *1. Permitting Solid Waste Management Facilities.*

#### *a. Why Permit All Solid Waste Storage Facilities?*

Section 403 of S. 976 would create new RCRA section 4010 requiring permits for solid waste management facilities. Within four years of enactment, facilities that treat, store (unless excluded), or dispose of solid waste would need permits. S. 976 contains no small quantity nor accumulation period exclusions from the permit requirement for storage facilities.

As SPI reads section 403, it would subject plastic processors with dumpsters containing wastes like those generated by households to the permit requirement. There may be sound reasons for requiring solid waste treatment and disposal facilities to obtain such permits and perhaps even some solid waste flu facilities, for example, surface impoundments. SPI does not believe, however, that there is sufficient cause to require a permit for the storage of solid waste in dumpsters awaiting regular (often weekly or semi-weekly) pick-up. For reasons explained below, SPI does not believe proposed section 4010's "normal course of transportation" exclusion for storage facilities is adequate to alleviate SPI's concern about the potential applicability of the permit requirement to its processor members' dumpsters.

A review of the proposed permit conditions set out in section 403 indicates that there is insufficient cause for requiring permits for many types of non-land-based

solid waste storage. The permit conditions have little apparent applicability to the containerized storage of waste (for example, in dumpsters) awaiting pick-up.

● S. 976 would require industrial facilities storing solid wastes in dumpsters prior to off-site shipment to specify (1) the "toxicity" or "other potential to adversely affect human health or the environment," Proposed RCRA § 4010(f)(1), and (2) measures preventing "unlawful disposal of hazardous waste," Proposed RCRA § 4010(f)(5). Those requirements, however, either duplicate or conflict with their existing obligations to identify hazardous wastes and dispose of them properly. Industry is well aware of the substantial civil and criminal penalties incident to violating those obligations, and, of course, there are reasons beyond legal obligations for small business owners, to identify and properly manage its hazardous waste—namely, their own interest in ensuring a clean and healthful environment.

● Many of the permit conditions established in section 403—facility design, air and groundwater monitoring, financial assurance for closure, and corrective action, Proposed RCRA § 4010(f)(2), (3), (4), (8)—have little or no relevance when it comes to the storage of solid waste in dumpsters.

● Storm water run-off from industrial areas, including those areas surrounding industrial dumpsters, will soon be subject to control in accordance with EPA's storm water discharge permit rule. See 55 Fed. Reg. 47990 (Nov. 16, 1990) and 56 Fed. Reg. 12093 (Mar. 21, 1991) (individual and group permits) and 56 Fed. Reg. 40948 (Aug. 16, 1991) (general permits). (RCRA is not the only statute which has an impact on the management of solid waste.) Storm water pollution prevention under EPA's existing program will range from pollution prevention plans and storm water management controls to effluent limitations on storm water discharges. There is no reason, therefore, to create a redundant regulatory obligation, Proposed RCRA § 4010(f)(6), where an existing program already addresses the concern.

● A restriction on the receipt of liquids, Proposed RCRA § 4010(f)(7), might make sense if the liquids were to be disposed of with wastes from which hazardous constituents could leach. As described above, however, EPA's TCLP rule provides the mechanism for characterizing such wastes as hazardous, subjecting their management to the Subtitle C rules.

#### *b. Accumulation Period: An Appropriate Exclusion for Storage Facilities.*

As noted above, section 403 would exclude some storage facilities from the permit requirement. However, the sole exclusion—for storage in "transportation-related facilities including loading docks, parking areas, storage areas and other similar areas where shipments of solid waste are held during the normal course of transportation," Proposed RCRA § 4010(a)(1), (b)(1) (emphasis added)—is unclear and inadequate. The lack of clarity arises from the use of an undefined term—"normal course of transportation"—instead of well-established RCRA concepts.

S. 976's incorporation of the undefined and novel phrase "normal course of transportation" gives rise to many questions, the most fundamental of which is simply what types of storage does this language exclude? More specifically, SPI members need to know whether a plastic processor's storage of waste in a dumpster, awaiting pick-up by a waste hauler, occurs during the "normal course of transportation"? Since the plastic processor's placement of solid waste in the dumpster is not part of a "course of transportation"—"normal" or otherwise—the exclusion would not appear to apply. That placement arguably is an action that occurs as a prelude to (not during a cow of) transportation. It is far from certain that such placement would fall within the "normal course of transportation" exclusion, because the meaning of that phrase is anything but "plain".

And yet—should there be any uncertainty that such storage is excluded from the permit requirement? As discussed above, the goals of the proposed permit conditions for solid waste management facilities are parodied when the conditions are applied to plastic processors storage of waste in dumpsters. What purpose is served in having facilities apply for permits, the conditions of which are unnecessary?

Rather than invite confusion (and possible resu tant litigation) which the "normal course of transportation" exclusion would create,<sup>1</sup> Congress should rely on well-established RCRA concepts. As the subcommittee is aware, RCRA's hazardous waste management rules provide that generators may accumulate hazardous waste on-site for a limited period of time without authority to operate as a hazardous waste man-

<sup>1</sup> SPI tears that more resources would be expended on litigation than on the protection of human health and the environment if the "normal course of transportation" exclusion were incorporated in the final rule ad would piry the jurists that would have to wrestle with the *Chevron* rules, *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), to decipher its meaning.

agement facility. In the case of large quantity generators, those that generate 1000 Kilograms or greater in a calendar month, it is permissible to accumulate waste for 90 days. 40 C.F.R. § 262.34(b). For those that generate less than that amount, the permissible accumulation periods range from 180 to 270 days, depending on other factors. 40 C.F.R. § 262.34(e), (f).

Some variant of accumulation period concept would be an appropriate exclusion from whatever compliance obligation Congress may impose on solid waste storage facilities. The rationale for such an exclusion is simple—the shorter the period of time waste is held in an area, the less that area is akin to a “solid waste unit”. A permissible accumulation period (i.e., an exclusion for facilities that ship their wastes for off-site management with some specified frequency) might be appropriate. A dumpster emptied frequently is associated with few of the concerns which arise in the context of true management” units, for example, surface impoundments, and which Section 403’s proposed permit conditions are designed to address. It might be justified to exclude facilities that use compactors (separating their putrescible waste) and have less frequent trash collection. EPA should be given authority to develop appropriate accumulation period exclusions on the basis of its review of the pertinent data.

## *2. An Alternate Approach for Solid Waste Storage Facilities.*

Rather than require all solid waste storage facilities accumulating waste for longer than a specified accumulation period to apply for permits, SPI suggests an alternative which would (1) subject some to the permit requirement, (2) allow some to comply by means registering and submitting a one-time report, and (3) allow others to avoid any new obligations altogether. EPA should be given discretion

- to determine which land-based solid waste storage facilities (for example, surface impoundments) might require permits because they are most like management units;

- to subject some non-land-based storage facilities (those that store greater quantities for longer periods of time) to the registration and report alternative; and

- to exclude containerized solid waste storage units from any requirements altogether (for example, dumpsters of the type SPI member processors ordinarily use) based upon the small quantity of solid waste the facility generates and the frequency with which the facility ships that waste off-site.

In light of the potential for S. 976’s permit requirement to overwhelm the regulatory system due to the quantity of industrial solid waste involved, this more systematic approach would seem to be a logical first step.

Registration of non-land-based solid waste storage facilities could be similar to RCRA hazardous waste generator registration, 40 C.F.R. § 262.12. An accumulation period exclusion, like the one described above, would allow facilities storing waste for less than a specified period to avoid registration. A brief (no more than two pages) and easily understood form would solicit information regarding the location, ownership, principal contact, and description (in the form of checklists) of the types of solid waste storage units, and accumulation time at a facility. EPA Form 8700-12 would be a useful template in creating a solid waste storage registration form. EPA might consider requiring the facility completing the registration form to certify that the facility has a program for identifying RCRA hazardous wastes and managing them as required. EPA would assign registration identification numbers to facilities completing registration forms.

Registration would eliminate the excessive burden on State environmental regulatory agencies which processing a mountain of solid waste storage permit applications would create. The plight of State environmental regulatory agencies—overworked, under-staffed, and under-funded—is well known. Their expression of chagrin when faced with the potential of having to process thousands of individual storm water discharge permit applications is just one of the recent examples of State agencies’ objecting to EPA’s creating more administrative requirements for State agencies to implement. EPA Administrator Reilly similarly advised the subcommittee regarding the need to proceed cautiously in light of the “widespread fiscal problems facing all levels of government today.” Statement of Administrator Reilly, *supra*, at 3.

To provide EPA with a better database with which to assess the nature of industrial solid waste, SPI would also recommend that EPA be given discretion to require a one-time solid waste storage report for those solid waste storage facilities it subjects to the registration alternative. This report would include the facility’s registration identification number and information regarding the nature and volume of solid waste generated during the past year. EPA should have discretion

(1) to require subsequent reports to satisfy information requirements regarding the ultimate management (e.g., recycling, composting, incineration, disposal) of solid waste if the agency finds such information is necessary to address the need to develop new industrial solid waste management criteria, and

(2) to require preparation of such reports without requiring their submission until requested.

This discretion should extend to allowing EPA to require reports from specific industrial sectors but not others.

### *3. A Better Understanding Must Precede the Creation of an Elaborate New Industrial Solid Waste Management Scheme.*

SPI supports a legislative directive (with appropriate resources to carry out the task) that EPA evaluate the need for new industrial solid waste management rules within the context of Subtitle D. Because any such program would have to take into account the wide variation in the composition and characteristics of industrial solid wastestreams—and could not subject industrial solid waste to more stringent requirements solely on the basis of its source—EPA would have to have a better understanding of the universe of industrial solid waste before proceeding. As EPA Administrator Reilly testified, "it is essential to better characterize these wastes to ascertain the risks, if any, posed by them." Statement of Administrator Reilly, supra, at 17. To ascertain those risks, SPI suggests EPA focus on certain questions.

- What industrial solid waste streams pose risks distinct from household trash?
- Are existing hazardous waste identification mechanisms inadequate to handle those industrial solid wastes that pose risks to human health and the environment?

In focusing on these questions, and on the need for a distinct industrial solid waste regime in general, the subcommittee must be mindful of the administrative burden such a regime could create. Federal and State regulators have had an enormous chore coming to grips with the management of municipal solid waste. Any new regime for industrial solid waste must consider the added burden of regulating the much larger quantity of that waste—a burden which could potentially overwhelm regulators. The risk of overtaxing the regulatory system must be weighed against the marginal benefit to human health and the environment which new regulations might obtain. The flexible approach to controlling solid waste storage facilities described above responds to these concerns.

Other than the need for additional new data, SPI has some further thoughts on factors the subcommittee should consider in shaping a new industrial solid waste regime. First, the labyrinthine ways of the Subtitle C program should be eschewed, if for no other reason than the potential for the immense number of Subtitle D facilities and vast quantity of Subtitle D waste quickly to overwhelm so complex a program. As EPA Administrator Reilly cautioned the subcommittee, "the costs of the Subtitle C regime under RCRA has strained the ability of regulators to implement and the regulated community to comply. A comparable regime for Subtitle D of RCRA is infeasible, unworkable, and unnecessary." Statement of Administrator Reilly, supra, at 7.

Second, controls should, wherever possible, be expressed in terms of performance standards rather than designation of specific materials. For example, SPI notes that RCRA's existing liner requirements adopt a performance standard—prevention of the migration of any constituent passing into the liner and preventing migration of wastes to the adjacent soil or ground or surface water. See e.g., RCRA § 93004(o), 3005(j)(12)(A). This performance standard is, in turn, incorporated in EPA's rules, with the additional requirement that liners be made of a material of appropriate chemical properties and sufficient strength and thickness to prevent failure from a number of sources in daily operation. 40 C.F.R. §§ 264.221 (surface impoundments); 264.250 (waste piles); 264.301 (landfills). In proposing controls for municipal solid waste landfills, EPA adopted an even broader performance standard use of a liner (among other requirements) to attain a groundwater carcinogenic risk level with an excess lifetime cancer risk level in a specified range. Proposed 40 C.F.R. § 258.40(b) 53 Fed. Reg. 33410 (Aug. 30, 1988). SPI believes this performance standard approach is preferable to specification of particular materials as in proposed RCRA section 4011(c)(2)(A).

#### IV. CONSIDERING THE BURDEN TO SMALL BUSINESSES.

Any directive to EPA to impose a new regulatory scheme on storage of industrial non-hazardous solid waste must be sensitive to the fact that small businesses generate such wastes but do not have the technical or financial resources to decipher intricate rules that might appropriately apply to large companies that generate large quantities of waste. To alleviate any undue burden on small businesses (and by

undue" SPI means, to borrow again from EPA Administrator Reilly, a burden that would "yield little benefit while having significant economic impact," Statement of Administrator Reilly, *supra*, at 8), SPI recommends the adoption of a small quantity exemption modeled after the small quantity exemptions adopted in the RCRA hazardous waste rules. Specifically, SPI recommends that solid waste storage facilities that generate less than a specified quantity in a calendar month be exempt from whatever regulatory obligation is imposed on non-land-based solid waste storage facilities. The specified quantity could be expressed in cubic yards and could be calculated as a multiple of the capacity of standard dumpsters used by small businesses (perhaps a multiple based on the number of weeks in a month and assuming weekly pick-up).

#### CONCLUSION.

SPI hopes the subcommittee will find this statement a useful distillation of the small business perspective on some of the industrial solid waste components of S. 976. SPI also hopes the subcommittee will view SPI's recommendations as constructive and useful ways of tailoring the reauthorization package to address the concerns of small businesses. SPI appreciates the opportunity to provide this information to the subcommittee and will provide additional statements on matters of concerns to its members.



# RESOURCE CONSERVATION AND RECOVERY ACT AMENDMENTS OF 1991

TUESDAY, SEPTEMBER 17, 1991

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON ENVIRONMENTAL PROTECTION,  
*Washington, DC.*

The committee met, pursuant to recess, at 9:32 a.m. in room 406, Dirksen Senate Office Building, Hon. Max Baucus [chairman of the subcommittee] presiding.

Present: Senators Baucus, Chafee, Symms, Durenberger, Warner, and Lieberman.

## OPENING STATEMENT OF HON. MAX BAUCUS, U.S. SENATOR FROM THE STATE OF MONTANA

Senator BAUCUS. The committee will come to order.

Today is the tenth and final hearing on legislation that I introduced, along with Senators Chafee and Burdick, to reauthorize the Resource Conservation and Recovery Act. Today we will hear from EPA Administrator Bill Reilly.

Over the past three months we have heard from many experts from States, from cities, from the environmental community, and from industry. The simple lesson that we have taken away from these hearings is that we Americans simply waste too much and reuse and recycle too little.

During the course of these hearings we have learned about waste management problems which our cities and States face every day. Garbage generation is mounting. Most States want to be able to restrict or ban municipal waste from someone else's State. Too much hazardous waste is still created. And I'm sure that the American people would be surprised to know that the vast bulk of industrial waste, which is mammoth, is essentially unregulated.

But what struck me most about these hearings was the recurring theme that the Federal Government must be a leader in finding the solution. Cities, States, and industry can't solve our national waste problems without national leadership.

Municipal and State representatives, the scrap recycling industry, and private haulers have all told this subcommittee that they can recover recyclable materials from the waste stream, but our market-based system has not yet responded.

City representatives complained that their recycling programs can't break even, let alone generate a profit. As the New York Sanitation Commissioner stated,



In the absence of Federal leadership in market development for recyclable materials, recycling will fall, despite the best efforts of municipalities.

Another witness from the National Association of Counties stated,

It is clear that individual county efforts are not enough to make any significant impact on the huge amounts of garbage disposed of every day. Only a nationwide approach to reduction can make a serious dent in our attempt to limit waste.

The representative representing the League of Cities stated that

The Federal Government must play a critical role in decreasing the toxicity of solid waste through research, through restrictions, and in some cases on bans on toxics.

It is clear that if we are serious about reducing, recycling, and better managing our waste the Federal Government must be involved.

Today we will hear from Administrator Reilly. I'm eager to hear what he has to say about the role of the Federal Government in solving our waste problems.

We just received a copy of your testimony this morning, Mr. Reilly, and so we haven't had a lot of time to go over it, but from the tone of it I must say I'm not terribly encouraged with the enthusiasm of the Executive Branch in working with the Congress in trying to solve this problem. I hope that we can make further progress in the upcoming weeks and months.

I must say that the role of the Executive Branch was very helpful in working with the Congress in passage of the Clean Air Act. It made a big difference when the Executive Branch participated.

But if the Executive Branch is not going to participate, if it is going to drag its heels, if it is not going to be even a reluctant participant but an impediment, then we'll be doing a disservice. Particularly the Federal Government, from the Executive Branch point of view will be doing, in my judgment, a disservice to the American people because the American people do want solid waste and hazardous waste problems dealt with. They don't care about finger pointing. They don't like finger pointing. They don't like one branch of the government to be in the way. So I very strongly urge the Executive Branch to provide more leadership in the future.

I'll now turn to the ranking member of the committee, a very valuable member of this committee whose leadership on this and all issues before this committee has been extremely helpful, the Senator from Rhode Island.

#### OPENING STATEMENT OF HON. JOHN H. CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. Thank you very much, Mr. Chairman. Again I want to pay public tribute to you for pressing forward on this issue. This is the tenth hearing, as you have mentioned. I supposed we have had close to 100 witnesses. Again, that is as a result of the energy and the dedication you have applied. You have chaired every one of these hearings and have been here for every minute of each of the hearings. That's a long siege.

I want to thank the administrator of the Environmental Protection Agency, Mr. Reilly, for coming up today. We look forward to

hearing the administration's views on the efforts of this subcommittee to enact a comprehensive law dealing with RCRA.

Also I want to say to you, Mr. Reilly, we are very, very grateful for the leadership you have given to that agency. I think you have maintained a very high degree of integrity in EPA. We are honored to have you come up here to testify today.

As Senator Baucus mentioned, we have S. 976 before us, which Senator Baucus, Senator Burdick, and myself introduced earlier which reauthorizes RCRA. We are doing this because there are some real problems out there. Senator Baucus finds it in a very rural State, I find it in a very congested State.

We have increasing volumes of garbage, we have a decline in landfill capacity, so there are some real problems that we face.

The role of the Federal Government, as witnesses have testified, is absolutely essential. In my State we are dutifully collecting. We are probably doing the most recycling in the country, but the trouble is there is no market, or very little market, for the materials we are obtaining. It is a chicken/egg situation. Yes, we are picking up all kinds of newspapers.

I think you will agree with me, Mr. Reilly, that no State is doing a better recycling job than ours. But, as the chairman mentioned, recycling organizations are running into tremendous financial difficulties and recycling is coming apart at the seams because of the lack of markets or the lack of adequate reimbursement for the materials that we are collecting.

We can't afford to have EPA on the sidelines refusing to help us advance the ball on this very critical issue.

I am aware that you are going to voice on behalf of the administration some concerns about S. 976, but I hope that, working together, we can get some good legislation which will enable the Federal Government to help the States and localities in addressing this.

I just will mention in passing that I held a meeting at home last Saturday for three hours with environmentalists from around the State. One of the issues pressing was an issue that was advanced here by the Clean Water Action League, and that is that there be a moratorium on the construction of any incinerators in this country through the balance of the century.

You ask what you do with the refuge, the trash in the interim? Well, we want to recycle it. We've got to have recycling.

No one is against recycling and we are all for it, but the feeling is that the incinerators deprive the initiative of going forward with the recycling. They've got a point. We can't just dismiss them. These people are very thoughtful and have spent a lot of time on this issue, and there is much in what they say.

So we look forward to some help and assistance. Again, referring back to the greatest success we have had in the last two years, it was clearly the Clean Air Act, and that came because of the cooperation between this committee and you and your fellow officials from the administration.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Senator.

Senator Lieberman.

**OPENING STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S.  
SENATOR FROM THE STATE OF CONNECTICUT**

Senator LIEBERMAN. Thank you, Mr. Chairman. Good morning to you and Administrator Reilly.

I appreciate the opportunity to welcome him and hear from him again, although, as suggested by my two colleagues who have just spoken, I have some sense of disappointment from what I gather will be the Administrator's testimony that the administration, itself, does not think that legislation is necessary in the areas of solid and hazardous waste.

I think that there are many pressing reasons for reexamining RCRA in an expeditious manner. One of the most compelling was presented by EPA, itself, in a report that it issued last year on the implementation of RCRA. In that report the agency concluded that many parts of RCRA are very difficult to understand—so difficult, in fact, that they may be rendered unenforceable.

I thought the study was striking in the part in which it noted that the RCRA hotline averages what I thought to be a surprisingly large number of calls—1,000 a month as of 1989—calls asking for clarification on the definition of solid and hazardous waste alone.

The report went on to note that few individuals were actually able to make concrete suggestions about how to specifically improve the definitions without statutory revision, so I'm puzzled in that sense why the administration would not want to join with us in trying to adopt legislation that will produce revisions in RCRA that will ensure that 1,000 people every month are not calling the hotline with questions about definitions that are basic to the statutory scheme.

Second, I am concerned about the administration's apparent position that legislative initiatives are not needed in the area of recycling and toxic waste reduction.

On the issue of recycling, we in this committee heard what I thought was very provocative testimony from Barry Mannis, who is a vice president at Morgan Stanley, in an earlier hearing on RCRA and recycling.

As you can imagine, Mr. Administrator, it is unusual for our committee to hear from investment bankers, so we listened with some special interest. He testified that our national recycling effort, in his opinion, would only succeed if the private sector was induced, encouraged, romanced, if you will, into financing, supporting, and operating the vast recycling infrastructure that we are all trying to develop.

He went on to say that it is important to recognize that private sector capital will only be forthcoming to the extent that investments in recycling carry a promise of a reasonable, stable, and attractive return. A critical prerequisite to successful recycling, in his opinion, was appropriate legislative action.

I quote from his testimony:

Recycling is unlikely to succeed in an expeditious time frame without significant legislative assistance to both stabilize economics, thereby inviting private sector capital, and to encourage public participation.

Mr. Mannis strongly endorsed the recovery and utilization rate concepts contained in the chairman's bill. And the testimony of State and local officials was equally clear.

According to the director of Seattle's recycling program which, as you know, is one of the most successful in the Nation,

Local government programs will not be successful if they are not backed up by Federal commitment to waste reduction and the development of markets. Seattle cannot achieve its waste reduction goals if the Federal Government does not take an active role in waste reduction, particularly in establishing minimum content standards and in packaging regulations.

So I want to hear from Bill Reilly about what has led the administration to conclude that legislation is not necessary in the recycling area in the face of testimony that I have just referred to from an unusually broad group of people from Wall Street to State and local governments.

Finally, I want to stress the sections of this bill and S. 761, which I introduced earlier this session, that call for legislation on the whole issue of pollution prevention.

At our hearings on source reduction and toxic use reduction I think all of the participants agreed that planning is the key to meaningful pollution prevention. There was also agreement at our hearing that one of the main reasons that some industrial facilities are falling short of their source reduction potential is that many companies are simply unaware of where in their facilities source reduction would be beneficial. That's what the planning requirements of S. 976 and S. 761 are designed to do.

Obviously, some industries have realized those benefits on their own, but many others still respond to rising environmental costs and liabilities simply by changing pollution control technologies or sometimes by walking away from facilities by closing plants.

In a recent article, the Economist Magazine noted, "Precisely because the pressure within companies for end-of-pipe solutions is so strong, it is essential that government counteracts it."

In short, planning assists industries in understanding the benefits of pollution prevention, that it is effectively a win/win situation for both a clean environment and for better business, bottom line.

I'm looking forward to hearing the administrator's testimony on those planning provisions of S. 976.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you very much, Senator.

Senator Symms.

#### OPENING STATEMENT OF HON. STEVE SYMMS, U.S. SENATOR FROM THE STATE OF IDAHO

Senator SYMMS. Thank you very much, Mr. Chairman.

Welcome to the committee this morning, Mr. Administrator. I look forward to hearing what you have to say. I hope that we all pay close attention to some of the questions that I and others will be asking. I hope you can address, in your testimony, what the cost of all this is, and what duplication this legislation may create of what you already have in effect.

I think a very important point is what would we be imposing on EPA to give people permits for every single thing that you can

imagine, and whether it is even possible for you to administer it. Also, what is the estimate of the cost to the private sector to try to live up to some mandates that may not be possible to achieve, and whether it is actually practical and in the best interest of the country.

I look forward to hearing what you have to say. I generally think, from your testimony, that I will find much in it that I agree with.

I welcome you here this morning. I hope all the Senators on the committee that aren't here will have an opportunity to at least read your testimony, because I think it is very important as we deliberate this matter.

Senator BAUCUS. Thank you, Senator.

Senator Durenberger.

Senator DURENBERGER. Thank you, Mr. Chairman. Bill, welcome.

I really love Steve Symms, and he delivers some great one-liners. The one I think I just heard is the best one I have heard of all yet, and it went something like this, "I hope that we'll all pay close attention to the questions that I'm going to ask." I'd like to say I hope the same thing happens when I ask questions.

I'll defer any statements that I have. Maybe those statements will be reflected in my questions.

Thank you very much.

Senator CHAFEE. I was wondering if the Senator from Minnesota is made nervous when the Senator from Idaho says, "there is much in your statement that I think I'm going to find satisfactory."

Senator BAUCUS. And I might say to the Senator from Idaho that we hope he also listens to the answers I'm going to give to his questions.

Senator Lautenberg is unable to attend today's hearing. He has submitted a statement which will be included in the record.

[Senator Lautenberg's statement follows:]

OPENING STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM THE  
STATE OF NEW JERSEY

Mr. Chairman, for the last few months, we've heard States, local communities, and private citizens call for Federal leadership to solve our garbage crisis.

We're literally choking on our own trash—180 million tons of garbage a year. That's roughly 1500 pounds a year for every person in the U.S.

The Japanese may be gaining on us in industrial output, but we still have them beat two-to-one, when it comes to per capita garbage output. And our garbage output is supposed to rise.

At the same time, we are running out of places to put this garbage. Most of our garbage is thrown away in landfills. But more than one-third of all landfills operating in 1979 were closed by 1986. And EPA expects nearly half of those remaining to close by the end of this year.

Communities are transporting their garbage greater distances to out-of-state landfills. Costs are rising. According to the National Solid Waste Management Association, 37 States export garbage to another State.

Many States receiving this garbage want it to stop.

Last year, the Senate passed an ill-conceived amendment which would have allowed States unilaterally to ban garbage from other States. This amendment, had it been enacted, would have pitted State against state, rather than have States work together to solve our garbage problem. It would have foreclosed environmentally responsible solutions to addressing our garbage crisis. And it could have interfered with recycling programs.

Fortunately, this provision was dropped in a House-Senate conference. But the Senate action shows the pressure States are coming under to manage the garbage their citizens generate.

It's clear that we are going to have to generate less garbage and recycle the trash we do generate. But this garbage is made up of products and packages which move in interstate commerce—products which the Federal government must address.

Mr. Chairman, we elect a President to provide leadership. And our sitting President told us he was going to be the "Environmental President."

Yet the Administration testimony we will hear today provides no leadership in dealing with our garbage crisis. We'll hear no leadership to reduce to the garbage we generate. We'll hear no bold new programs to expand recycling efforts.

There's a war between our States over garbage. But, our Administration has done little to make peace.

Mr. Chairman, this is unacceptable. My State and other States want to address their solid waste problem. But no State can do it alone.

We're establishing programs to collect recyclables. In New Jersey we have curbside collection at over 350 out of 567 municipalities, 20 materials recovery facilities for residential recycling, over 200 recycling facilities and over 200 composting facilities.

So we're moving aggressively to collect recyclables.

But we need the Federal Government to help . . . to reduce the packaging we use . . . to assure that the garbage localities collect will be used by industry . . . to reduce the level of toxics in products and packages . . . and to assure that environmental claims are meaningful.

So this committee, and I believe Congress, will respond by passing legislation to strengthen RCRA. And if the Administration wants to sit on the sidelines, then this committee will act without the administration's input.

Mr. Chairman, I thank you for your leadership on this issue and I look forward to working with you as we move forward to address our garbage crisis.

Senator BAUCUS. Mr. Reilly, it's your show.

**STATEMENT OF HON. WILLIAM K. REILLY, ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY DON CLAY, ASSISTANT ADMINISTRATOR FOR SOLID WASTE AND EMERGENCY RESPONSE; AND SYLVIA LOWRANCE, DIRECTOR, OFFICE OF SOLID WASTE**

Mr. REILLY. Thank you, Mr. Chairman. I'm tempted to begin the questioning.

Mr. Chairman and members of the committee, I appreciate very much the opportunity to appear before you on this extremely important issue and thank you for it.

I am accompanied here today by Assistant Administrator for Solid Waste and Emergency Response, Don Clay; and the Director of the Office of Solid Waste, Sylvia Lowrance; both of whom have covered a number of issues that we will discuss in hearings that you have had, a very extensive set of hearings leading up to this one.

I think the public cares very deeply about the issues of waste. There is a sense in the country that we throw away too much, that we need to change our values, and alter our habits. The question that we confront today is: how do we best respond to this sense?

I'd like to suggest at the outset some principles that I think might usefully guide the debate—six in particular influence my understanding of how a comprehensive and workable waste management program for this country might operate.

First, we need to target our scarce governmental and societal resources to the most serious environmental problems. That was the burden of the Science Advisory Report, "Reducing Risk," on which

I testified before this committee last January; that is the watchword at the agency at this time.

Second, when seeking to reduce risk, we need to employ the most efficient, cost-effective means to achieve our goals. The burden of that I think was made very clear by the "Cost of Clean" report which we released just about a year ago, indicating that the cost borne for environmental protection in the United States as a percentage of GNP would rise about 50 percent, from 2 percent of gross national product now to approximately 3 percent in the next 10 years.

We are a rich country. We are not so rich that we cannot afford, however, to pay attention to cost and to cost effectiveness.

Third, in debating new legislation, we need to keep in mind the importance of the local, State, and Federal relationships to the success of the RCRA program. We cannot, we must not nationalize the garbage problem. The States and localities have had and must continue to have the central and responsible role for addressing these issues.

Fourth, environmental protection is the responsibility of every citizen in the United States as individuals and as part of institutions.

I think that the consumer preferences that we see, the increasing tendency of consumers to buy green, and of advertisers to advertise green, is testimony to the great power that we have as consumers, perhaps an even more immediate power and effective in some ways than the power we have as voters. Consumers are being heard. Manufacturers are responding. There have never been more green products available on the market.

Fifth, RCRA should encourage development of new and better technology. There are more technologies coming on. We very much want to see that continue and want to do nothing that would impede those technologies.

Finally, and most important, we need to be guided by a desire to gear our laws and priorities to the protection of human health and the environment. That is what the scientists and the experts have given us as the best standard by which to measure the success of what we do. It ought to apply to the Resource Conservation and Recovery Act as to everything else.

In our view, Senate bill 976 does not meet these principles. The potential economic impact of a major new Federal legislative initiative in RCRA for the huge subtitle D program could be extraordinary.

Senate bill 976, in response to demands of our citizens for a strong national waste management program, addresses all aspects of waste management, source reduction, recycling, and waste disposal. Many of the approaches taken in the Senate bill are now, however, the most efficient means for achieving our national goals. The bill does not, in our view, provide for targeting significant risk. And it establishes many command and control approaches that are, in some cases, technically infeasible or administratively unworkable.

Perhaps no environmental issue we face today is of more concern to the American public than municipal solid waste. Even with significant source reduction and maximum recycling, we will continue

to need incinerators and landfills to manage the remaining unrecycled materials. The public will allow new capacity only if: one, recyclables are removed; and, two, the capacity is designed and operated safely.

This can be effectively achieved through market-based incentives, coupled with existing regulatory authorities governing waste management facilities. Full-cost pricing is something that has been tried in a couple of hundred jurisdictions, most notably including Seattle, which was mentioned. It deserves to be used more.

Local governments must make certain that the price charged for waste services accurately reflects the true cost to society of managing that waste, including the cost of land, closure and post-closure costs, and other relevant costs.

The costs that we do pay are typically hidden. Rarely do they vary according to the amount of garbage we take to the curb. As in other instances where the polluter pays, those responsible for the costs should actually pay them. Therefore, I believe that State and local government should investigate variable-rate pricing where the price charged for waste services varies with the weight or volume that each household produces, and they will very likely find, as Seattle has, that the amount of garbage generated declines significantly.

The Federal Government has a critical role to play in improving the market for recycled products. We have issued Federal procurement guidelines that give preference to the purchase of materials made from recycled materials. Government is now using more recycled product than at any time in our history, and the curve of use is straight up.

Industry is responding to government purchasing preferences by increasing investment in new processes to turn discarded materials into new products.

Last week, as you know, I signed the landfill rule, designed to assure a new, high standard of protection for groundwater. This landfill rule will level the playing field by equalizing cost, and it will also, I think, alleviate some of the interstate transport issues by ensuring that there is little economic advantage to shipping waste long distances to avoid the costs of environmental protection.

EPA, in concert with the Federal Trade Commission and the Office of Consumer Affairs, is working to harness public interest by developing consistent national definitions for use in the marketing of consumer goods.

Toward that end, we are about to issue a notice requesting comment on the use of the terms "recycled" and "recyclable." I think the last thing we want to have happen at a time when there is great consumer interest in buying recycled products is for confusion to develop and perhaps cynicism to result about whether, in fact, there is integrity in those market claims.

Building consumer confidence so that they can rely on environmentally oriented marketing claims will serve to further develop markets for recycled goods.

EPA supports and is committed to the goal of pollution prevention. We have tried to apply it in any number of our programs and regulations. We have looked for opportunities even where they are not obvious to insist on it.



Reduction of waste and other constituents at their source can often be the most reliable and economically efficient means of controlling pollution.

EPA has already made pollution prevention an integral part of our programs. For example, we have begun a voluntary program, the 3350 industrial toxics program, in which over 250 major manufacturing companies, most representing many facilities, have voluntarily committed to participate in reducing releases of 17 targeted chemicals from the toxics release inventory by 33 percent by next year and 50 percent by 1995. We will get hundreds of millions of pounds of toxics, which are now lawfully released, out of the system as a result of this program.

We question whether the proposed Senate bill scheme is the appropriate means of accomplishing our mutual goals. Many of the bill's provisions operate as a command and control system that will inhibit waste minimization technology development.

With the Pollution Prevention Act enacted in November of 1990, and EPA's jurisdiction under the Resource Conservation and Recovery Act and the Toxic Substances Control Act, we now have the tools necessary to gather data and encourage greater industrial source reduction.

The proposed legislation imposes extremely ambitious and technically infeasible requirements upon EPA, the States, and industry, with an unreasonably short amount of time to develop and implement those programs. Such standards could seriously inhibit industrial innovation.

EPA has already studied special wastes, which include oil and gas, mining, and cement and kiln wastes. We believe any regulatory scheme for them should be State run.

It is essential to better characterize the other industrial solid wastes to ascertain the risks, if any, posed by them. We expect to find very diverse risks and need to better understand risks before we regulate these wastes.

It is particularly important with industrial solid waste to target scarce societal and governmental resources in this fiscally constrained era.

The Senate bill sets forth unrealistic deadlines for rules, State certifications, and permitting, further straining resources.

The hazardous waste and secondary materials recycling provisions address the definition of solid waste, which is one of the most difficult areas of RCRA. With hazardous wastes we need to balance encouraging recycling with safe waste management. It also involves addressing thousands of diverse industrial processes and waste streams.

These complex issues should be addressed on a case-by-case basis, which cannot be done by statute. EPA needs flexibility to deal with these problems and is already working on this issue.

We will issue an advanced notice of proposed rulemaking to request comments on proposed amendments to the definition of solid waste, which we think will address many of the issues of concern in the Senate bill.

We believe it is too early to define a need for new legislation in this area, but we will be happy to share with the subcommittee the results of the ANPR comments.

In closing, let me say, Mr. Chairman, EPA does not disagree with the goals of safe waste management expressed in the Senate bill. We do, however, disagree with the means the bill sets forth to accomplish our mutual goals.

Our staff and I are prepared to continue assisting the Congress in addressing our waste problems in the United States, and we look forward to working with you on practical means to achieve the goals we share.

Thank you, Mr. Chairman. With that we will look forward to answering any questions you and your colleagues may have.

Since I think I neglected to ask, may I ask that my statement be submitted in total in the record.

Senator BAUCUS. It will be included in the record. Thank you very much, Mr. Administrator.

I must say that I'm quite disappointed. When you say that it is not time yet for legislation, I am really quite astounded.

I think the American people would like the Congress to, in a responsible way, address the mounting garbage problem that faces this country. You know as well as I the degree to which transportation of interstate garbage is a major issue. People are very concerned. You know as well as I—better than I—this syndrome. People just don't want incinerators or garbage dumps in their back yard. It is a major problem.

Frankly, I think that there is a great opportunity here to put real meaning into the title of this statute. Put resource conservation and recovery into the statute so that we are not just managing the garbage and the waste we produce. Let's minimize the waste that we produce. Let's produce less waste. Let's recycle more so that we don't have to have quite the same problem of disposing of the garbage in the landfills, and don't have quite the same problem of siting incinerators around the country.

I am astounded, frankly, that the administration does not want to take advantage of that opportunity.

Second, recycling and conservation is not just an environmental matter. It has very major environmental consequences. That's true. It has very major environmental benefits if we could find a responsible way to address the problem. But waste also is an efficiency matter. The more we are wasteful as a country, the more we are deficient as a country.

This is not just an esoteric tree-hugger issue. This is also an efficiency/productivity issue. The more we Americans are efficient, and the less we produce waste, the more we are also going to be more competitive as a Nation.

Beyond that, I must say that I believe we need very active Federal involvement here and a very active Federal role. I know the administration is very insistent that the Congress take up and pass the Basel Convention statute and hopefully ratify the Basel Convention, because the administration would like the United States to be a player in the world community.

Just as we need Federal legislation to address our role in the world community, it seems to me we also need a Federal role here to coordinate the States' efforts.

I also must say that I think your statement is a bit misleading. When you say that we in this legislation have "too much command

and control," we are very sensitive to that issue. We don't want too much command and control. We have to have some, but we don't want too much.

As you well know, the provisions in our statute do leave the States with the primary responsibility in managing solid waste. We just asked the States to develop their own plans to handle solid waste management in the way that each State feels is best for each own State. That seems to make sense. But we do think a State should have a plan—a plan that has certain provisions in it but, again, leaving the responsibility to the State to develop the plan.

The same applies to waste minimization and the inducement for industries to minimize the production of waste. We don't tell industry how to minimize waste. We just ask the industries to come up with their own ways, their own plans for reducing the waste that they produce. It seems to me that makes sense. The industries, themselves, would be in the better position to know how to develop their own plans.

I will ask you some more precise questions when it comes back to my round again, but I must say I'm very disappointed and disturbed.

I think in some way this is further evidence that the administration has a plan for other countries and helping them solve their environmental problems, because the administration does want the Basel Convention ratified, but the administration does not have a plan for American and how America is going to handle its own solid waste problem.

I just hope that the administration reconsiders, because I think the administration is making a mistake. I think the administration is not realizing that the American public wants this issue solved. Again, I hope the administration reconsiders.

Mr. REILLY. Mr. Chairman, if I might just reply briefly to that, with respect to the municipal solid waste issue, the latest numbers we have, which I think are from 1988, indicate that there is something like 180 million tons of municipal solid waste generated annually in the United States. Of that, about 15 million tons is transported among the States—in other words, less than 10 percent. Of that, 50 percent of that comes from two States, New York and New Jersey.

There is a large sense in the States to which that garbage goes of inequity, and I understand that. I think there are some ways that States and localities might address that.

Whether, frankly, there is a very large environmental consequence that we need to worry about at the national level as a result of that is less clear to me, but I would say that I mentioned in my remarks that I have a great deal of regard for the volume-based pricing approaches to handling this problem.

I think that when a jurisdiction sets out, as Seattle has, to have the cost of disposing of waste impact directly on the consumer—there has been about a doubling in the cost to the consumer since this program went into effect in about 1986—I think that may have the consequence of causing the problem to go away, or at least to be a much lesser one than it has been.

I think those approaches which are now being tried or considered in about 200 jurisdictions across the country need time to develop. I

think they likely would have impact. They are the kind of approach that—

Senator BAUCUS. I must say, though—if you don't know this I think you should know this—that the director of that program, the Seattle program, who testified here, testified that it is necessary for a Federal program, in that person's view, for market development for recycling to succeed.

Mr. REILLY. That's a somewhat different question, and I think that's right. I think that, given that the government is responsible for some 20 percent of our gross national product as a major purchaser of paper and plastics and tires and all sorts of goods, does, in fact, have that responsibility.

We have proposed five sets of guidelines for parts of the waste stream, for cement, and for tires and for paper and for plastics and for glass, and those are having an impact on the purchasing right now by the Federal Government. Those—

Senator BAUCUS. Well, she doesn't think they are having enough impact to make a difference, apparently.

Mr. REILLY. Well, I think that—

Senator BAUCUS. Anyway, I'm just telling you that person's—

Mr. REILLY. I understand.

Senator BAUCUS. I remember she was sitting right there at the end of that table. She was very clear and very forceful in her testimony.

Mr. REILLY. Well, I'm sure she would like us to buy more of that product than we presently do. But my point is that in the time that we have been engaged in this enterprise, those guidelines have had effect. GPO and GSA are purchasing more recycled product than ever before. Of my own agency, 97 percent of the paper we use is recycled. We will see much more of that in the years ahead. So I think that trend is very much in the right direction, and we have had a lot to do with encouraging it.

Senator BAUCUS. I won't belabor the point, but she was insistent. Senator Chafee.

Senator CHAFEE. Thank you, Mr. Chairman.

I share the chairman's disappointment that you don't envision a greater Federal role in all of this to help us, because we've got some real problems.

Just take my State, as I mentioned before. We can collect all the newspapers in our State, but we don't have enough of a market for us to cause people to get into recycling merely because we collect newspapers throughout the State.

As you know, S. 976 relies heavily on State planning, which would prod the States to deal effectively with these solid waste programs. Under it they'd have to submit to EPA plans which would detail how much waste the State generates and how they intend to manage it.

And then, under section 304, it gets into Federal procurement. I don't know what is pressing the Federal Government now to do much. You say in your agency you use 97 percent recycled paper, and that's splendid, but I wonder if the Agriculture Department or the Defense Department—what incentive do they have to do this? Where is the thrust coming from for them to use recycled material.

Sure, you are a pace setter because that's what your organization is all about.

Mr. REILLY. The thrust as of now is coming from our own guidelines in GSA. A large part of the thrust is in response to the Resource Conservation and Recovery Act, and a large part of it is in response to the priority the President set on environment, on recycling, and on waste minimization in this Administration.

So that is, in fact, occurring. And I believe that you would find, were you to look at the paper purchases by GPO, by GSA, that you would see a large amount of that, and a very growing percentage is, in fact, recycled right now.

Let me say that GSA has revised its paper specifications to incorporate our guideline's minimum content standards. There are some 114 of these standards. They govern the purchasing of paper by the government. In one and one half years GSA has purchased over \$140 million worth of recycled paper products. That's an estimated 30 to 40 percent now of their total paper purchases. I don't know where it was five years ago, but I'm sure it was a fraction of that. It will continue up in the future.

Senator CHAFEE. Let me get into the toxic part of this legislation.

Our bill, as you know, focuses on reducing the use of toxics in the manufacturing process.

Mr. REILLY. If I could just amplify, Senator, on the point before, we are very much in favor of seeing Federal procurement drive the engine of market demand for recycled product. We have some concerns about this bill in that it seems to leave questions of quality, availability, and price of lesser relevance, if any at all. But the direction we are going in—and I don't think we need legislation to encourage us to do this—is one that I think you would support.

Senator CHAFEE. While we are on that subject, what are you doing beyond paper recycling, purchase of other recycled products? Your principal focus is on paper?

Mr. REILLY. Well, paper is, of course, probably something the government does best of all and certainly purchase more than anything else, but we are also—we have set out guidelines on re-refined and reused oil, on plastics, on cement containing ash product, and I think on tires. In each of those areas, GSA is changing its specification, altering its purchasing, reviewing and revising its contract requirements and specs to ensure that we do, in fact, purchase these products when they are available.

Senator CHAFEE. Let me go on now briefly, because my time is nearly up here, to the toxic manufacturing, the use of toxics.

This is entirely different from the toxic release inventory, which deals with release of it. Our thrust is to reduce the use of toxics in the manufacturing process right back at the beginning.

Everybody will always agree that we shouldn't create so much to begin with. What do you say about that? Do you see any role in EPA in encouraging industry regarding the use of toxics?

Mr. REILLY. Well, the toxics release inventory, as you know, provides public information on toxics releases and has had, I think, an altogether unexpected and dramatic impact on both the knowledge within industry of their toxic releases, and also on the attitudes of company's leadership, stockholders, neighbors, employees, and the public.

More is needed, clearly. I think pollution prevention is needed within companies. But in response to the public reaction to toxics release inventory data, that is, in fact, occurring. I think we need, from our point of view, to provide a good deal of technical assistance to corporations, particularly with respect to how we measure toxics reduction.

Source reduction is an extremely difficult matter to be very specific or knowledgeable about without getting deeply into the activities of a corporation, into the unit of production, into the amount of product used, into the choices to make a particular product that may have been made. I'm not sure that at this time we can do more than provide technical assistance and guidance to companies to engage in that enterprise.

Let me say that I think that they are engaging in that enterprise, and when offered the opportunity to participate in our 33/50 program, we got 250 companies thus far since last February—major corporations across the country—to participate to reduce very substantially their toxic releases. That is an enterprise I think they are giving a high priority to and will continue to for a whole range of reasons: liability concerns, public image concerns, and finally the onset of new technologies, which is making a big difference in some industries.

Senator CHAFEE. I see my time is up. I will be back again.

Thank you, Mr. Chairman.

Senator BAUCUS. Senator Lieberman.

Senator LIEBERMAN. Thank you, Mr. Chairman.

Mr. Reilly, after a series of hearings on RCRA which have been interesting, the issue is joined here this morning between the administration and the majority of the members of the committee, and I think it is clear to you that it is joined in a way that is disappointing, at least to the three of us who have asked questions so far.

It certainly had been my hope that we would find ourselves on the questions of solid waste and toxic source reduction in a somewhat comparable position to where we were on clean air—that we all agreed there was a need for legislation and we might just argue and negotiate a little bit about what that legislation would be.

We clearly feel, through the introduction of S. 976, that the Federal Government needs to play a role through legislation, and the administration does not. I do want to just join my colleagues in stressing that I don't think any of us are yearning here for a Federalization of the way America handles garbage. That has traditionally been a State, and particularly local, responsibility and ought to continue that way.

But what has come clear, among other things, from the hearings we have held here, are: number one, the growing public, individual, personal interest and concern about the garbage problem and a desire to be part of the solution to it, particularly through recycling; and the fact that the State and local people who have come here to testify have really asked for our help.

So my first question to you is really just to draw on what I said in my opening statement, which is that we have had these two pieces of testimony that I found interesting, one from the gentleman from Oregon saying that if the business community is going to

invest in this infrastructure we need to handle recycled material, they are going to need predictability. They are going to need to be certain that there are markets. The best way to do that—perhaps the only way to do it really convincingly—is for the Federal Government to get in and help to create some markets, which is part of what is involved in our bill.

The second reaction I'd like to hear from you is to the lady from Seattle who was in here who has, by all of our estimates, one of the best local recycling programs going because of the so-called "pay as you throw" approach, but she, too, said that it is not going to continue to work unless the Federal Government comes in and helps guarantee at least markets for us for what we've got, not to mention giving us some more stimulus through other action—labeling, designing for recycling—that we have an adequate supply.

The thrust of the testimony we have heard is strongly in favor of Federal involvement, not Federal control, and I want to ask you why you disagree with that.

Mr. KEILLY. First of all, with respect to Federal procurement, as you describe her position I agree with it. I think the Federal Government—but not only the Federal Government, but State and local governments, as well, which also have a large part of our gross national product that they account for and of purchasing that goes with it—need to give a higher priority to procuring recycled product.

I think we can play a critical role both in setting an example at the Federal level—I believe, in fact, we are increasingly doing that—and in providing information through our clearinghouses, through information and advice to State and local governments about what is available and how and where and what the prices are and things of that sort. That I agree wholeheartedly on.

But I must say, when you indicate that you have had comments by State governments on the desirability of some of these measures, I would encourage you to cast a broad net, because the kind of message that I am increasingly getting from State governments is that we are asking too much of them in the way of permitting programs, of reviews, of paperwork, of personnel oversight.

I very much fear that the consequence of some provisions in this legislation would be to cause them to opt out and to let us administer the entire program, something that we don't have the resources to do.

We are fighting very hard now in our budget conversations to maintain enough resources to administer these programs that we already have, responsibilities that already exist. We are being threatened with having our safe drinking water program and others returned to us by States that feel excessively burdened by Federal requirements.

And I'm not sure that I saw on the witness list that I have seen for these hearings the kind of involvement by State commissioners of environmental protection and secretaries of natural resource or analogs at the State level that would reassure me they really are prepared to step up to these very large responsibilities.

Senator LIEBERMAN. I agree with what you said, but I want to make clear that the message that I heard and that I believe is included in S. 976 is not to burden—when it comes to recycling, for

instance, not to burden the State and local governments with more requirements, but to give them help so that the initiatives that so many of the State and local governments are showing will work, because they fear that without the help that the Federal Government can uniquely apply because it is national—and they are dealing with garbage that is created as a result of a national market, not a local market, and they are producing recyclable material that can adequately only be consumed by national markets, very often not by local markets, that they need our national help in providing the adequate supply and a decent market as the business community does.

So we are capable, obviously, of distinguishing between burdens and benefits and a kick in the pants and a helping hand. I think what they are asking for here, as the general public is, which is so enthusiastic about the potential for recycling, is a helping hand from the Federal Government. I'm disappointed that the administration has chosen to hold back its hand.

Mr. REILLY. Let me just say that I do want to make it clear that, with respect to labeling I think we are in fundamental agreement with you. We think that consumers do need good, dependable, reliable, enforceable information. When a label says it is made from a recycled product or is recyclable, and we are working on that, we do, in fact, I think, agree that we want to increase the Federal procurement of recycled product. That is what is happening in all sorts of areas and to a degree it was never happening years ago in paper, in aluminum, and all sorts of things.

We want to make more market information available, and are doing that through our information programs under authorities that we already have, so I'm not sure that our disagreement is in principle on those questions.

Senator LIEBERMAN. My time is up. I appreciate your response on those issues. I just want to say that, while they are helpful, obviously—and you and I could talk about whether the regulations on labeling are going to be adequately enforceable at another time—the approach of the bill here is to ask for much more from the Federal Government, which is: set some national standards, help develop the markets, create predictability for the business community.

Let's get together in a partnership, not in a Federal imposition, and make this work. That will require more than you have been willing to support this morning.

Mr. REILLY. We have asked that 25 percent of municipal solid waste be reduced and recycled by next year. I think that kind of goal can act to provide some assurance, and we are moving toward it. We know that we had a 30 percent increase in the amount of recycled waste in the United States in the last two years for which we have data, to provide some of the certainty that the individual from the investment banking house said was needed.

Senator LIEBERMAN. Thank you.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Senator.

Senator SYMMS.

Senator SYMMS. Thank you very much, Mr. Administrator. I do appreciate what I consider to be a very thoughtful statement this morning.



Continuing along the line of Senator Lieberman's question, will we achieve the 25 percent source reduction and recycling goal by 1992 that you set out in 1989?

Mr. REILLY. The last year for which we have data is 1988. We will have data again, I think later this year. We believe that we will be somewhere in the range of 20 to 28 percent recycled by 1995. That is the total recycled component of our municipal solid waste stream. That is a little more slow than we would have liked, but it is certainly moving in the right direction, and it is up from 10 percent in 1986, I believe, so that's fairly significant.

That compares with rates in other countries that, while not as high as some, is not far from them. I believe Japan is somewhere in the 30 to 35 percent rate. So that should give us grounds for encouragement, and that is something that is going to happen irrespective of new legislation.

Senator SYMMS. That's happening just because of the enthusiasm for recycling technologies, cost, and so forth.

Mr. REILLY. Yes, sir.

Senator SYMMS. Speaking of the cost question, RCRA does not provide for consideration of cost when issuing these regulations. Given the limited Federal and State resources available, do you think that cost should be an explicit consideration in future RCRA rulemaking, and so should be in the legislation?

Mr. REILLY. In the most recent analysis we have done of the costs of environmental protection in the United States, we concluded that we are currently laying out, as a society, largely the private sector, about \$32 billion for RCRA-related cost. By the end of the decade we expect that number to have grown by about 33 percent to \$42 billion. That is in constant dollars.

Senator SYMMS. That's per year, or—

Mr. REILLY. That is per year. Yes, sir. And those are very largely private sector costs that are borne by all of the regulated community and by consumers of their products.

That is without adding any further increment of responsibility.

Senator SYMMS. That's what is happening now.

Mr. REILLY. That is where the numbers are going to go absent further burdens that we may lay on that sector.

If you compare those to other parts of the environmental protection scheme, they are about the fastest growing we see. Those are very large burdens.

Consistent with the principle I mentioned at the start that we need to be sure that we get commensurate environmental benefits for these kinds of outlays, we do not see a justification in risk or in administrative responsibilities or in the other kinds of burdens that industry would have to bear to add to these at this time.

Senator SYMMS. Thank you.

Mr. Chairman, this is what astounds me. The chairman talked about what astounds him, but what astounds me is how somehow, in this committee room, we can completely be oblivious to a flat economy, one that is not growing, that is causing enormous difficulties for particularly low-income people when there is no growth in the economy. Then we witness in the last 12 months the complete collapse of the command and control economies in the world, and yet we try to continue to force command and control on our econo-

my out of this committee chamber. I think that your point is very well taken that without a strong, vibrant economy we won't have the resources to do the things that we all want to do with respect to the environment.

Mr. REILLY. If I might just elaborate a little bit on the part of your question that asks specifically whether or not we believe the role of costs should be considered, we do, in fact, believe that the agency should be explicitly allowed to consider cost when developing regulations, and this includes regulations under subtitle C relating to corrective action, which represent a very significant cost to industry, and regulations under the subtitle D regulatory program.

Senator SYMMS. Could you comment a little more on subtitle D, on whether it is necessary and if the risks are worth the cost to include it in this legislation?

Mr. REILLY. The universe of waste that is proposed to be added under industrial subtitle D waste here is enormous. It is something in the range of 7.6 billion tons of waste. To put that in perspective, we are currently looking at municipal solid waste of 180 million tons and of industrial hazardous waste of 280 million tons. It is an enormous new burden that we and the industry would bear.

We have relatively sparse information dating from 1986 from a RCRA survey we took then indicating that, looking at the manufacturing sector, alone, there are some 72,200 manufacturing enterprises that would have to be regulated under this approach.

What kinds of products they are responsible for—and that doesn't include non-manufacturing corporations, construction, and some other sources of large amounts of wastes—what processes they use, whether there are risks—and there no doubt are some, but whether they are in any way proportional to that huge assumption of responsibility, it seems to me the best that one can say is that it is premature to assume that at this time, and certainly premature to act without that kind of detailed information.

Senator SYMMS. Thank you.

The CHAIRMAN. My time has expired. Thank you very much.

Senator BAUCUS. Thank you, Senator.

Senator Durenberger.

Senator DURENBERGER. Bill, let's assume that I buy the general thesis of your opening statement and that maybe the bill that I cosponsored falls somewhat short on efficiency and targeting and shouldn't have as much command and control in it and things like that, but let's also assume, as I do, that one of the reasons that we do a little bit more command and control in some of these is that the record of enforcement of the foundation legislation, like the RCRA before us, is not quite as good as not necessarily we, but the people that we represent, believe that it ought to be.

My experience here is that we may over-regulate, we may over-mandate, we may over-command and control sometimes, but we don't just sit around here conjuring up plots against the economic system of the United States. This is reflected in the high volume of media and associations and citizen groups and contacts that all of us have from day to day in our States. My State, as you well know, is right up near the top of the list.

Maybe, to be fairest in the series of questions I'd like to ask, I could start with what you believe to be the most important changes in waste management that have come about because of RCRA. Just tell me what have we accomplished in this country in the area of waste management just because there was a RCRA.

Mr. REILLY. I think RCRA can take responsibility for accomplishing two or three very important things.

First of all, it has resulted in the permitting or the closing of a very substantial number of facilities. It has gotten a lot of bad operations out of business.

Second, I think the statute has had the consequence, along with Superfund, of enhancing the sense of responsibility that people have when managing hazardous waste and altering their practices in order to avoid the very huge liabilities that attend mismanagement in this era.

Those have been very positive contributions, and I think one can properly credit the Resource Conservation and Recovery Act for playing a very important part in that.

I think that, with respect to the contribution regarding municipal solid waste, non-hazardous waste, subtitle D, the contribution has been significantly less, but certainly in the last few years, as we have begun to give this a priority again, we have played no small role in the stimulation of more procurement on the part of the Federal Government, in the organization of States and localities to promote the use of recycled products, and the understanding of markets and how to stimulate them in these various products.

The interaction and dialog we have had with any number of producers—one thinks of paper, where a very substantial goal has been set by the newspaper publishers to use recycled product and to recover a large percentage of their product for reuse. The aluminum industry is now recycling 64 percent of aluminum cans. That is a number that is as high as any industry I can think of, and very substantially up from ten years ago.

Now, I don't think you can reasonably credit RCRA for something like that, but it certainly has played a part. It is part of the national change in values and attitudes, and it is a positive part.

Senator DURENBERGER. Let me try a slightly different approach. In the very beginning of your statement I'm guessing you probably lay out part of the problem here. It says,

In the broad context of all environmental hazards and problems, those addressed in RCRA generally pose low risk to human health today and pose variable ecological risk. RCRA's historical focus has been to protect groundwater for future use. Any changes to RCRA need to be based on the consideration of whether the dollars spent to carry out the new policy are reducing more risk to the public than if they were spent on other environmental programs.

I've got to tell you what that says to me. In light of what I know is going on out in the States in the groundwater area, while we do next to nothing at this level, it says that you believe that unless we can demonstrate higher ecological risk, that somehow or other money in this program, which is designed to protect groundwater for future use, is really going to get spent on air or on something else.

I just need to ask—maybe ask it by way of an illustration—if you had somebody out there with an unlined surface impoundment that was over a shallow aquifer and that is leaking a non-hazardous waste like brine, for example, into the water table, I would judge from your statement here that you probably wouldn't want to regulate that activity or prohibit it because there is some more important risk that you'd want to address.

But what I'm trying to figure out is how neglecting or not dealing with that kind of an issue actually gets you more to spend on ozone depletion or something else.

Mr. REILLY. Well, Senator, in response to the leadership that you and others have given on the groundwater question, we have in fact, I think, significantly increased our priority for groundwater protection and issued a groundwater strategy for the 1990's just last year. It is based largely on State identification of problems, State classification of groundwater resources, State assertion of power to protect drinking water, both presently used and likely to be used in the future. I think that's a direction we need to go.

The Science Advisory Board is the source of the characterization of the waste programs as dealing with less risk and of waste problems posing less risk than some other pollutants we are exposed to. They made their case in ranking priorities, and I think made it in a very defensible way. It is not to say that we shouldn't give priority to groundwater protection.

The point, after all, of the rule that I signed last week on landfills is essentially to say we are going to try to ensure that groundwater contamination does not occur in the future because we intend to stay here, we intend to be here, we intend to make a long-term commitment for 50, 100, or 500 years, and it is not consistent with that expectation to allow these pollution concentrations to affect the groundwater all across the country.

We are addressing those groundwater questions, and I fully believe that we should.

Senator DURENBERGER. My time is up.

Senator BAUCUS. Go ahead if you have another question. All of us have gone a little over our allotted time.

Senator DURENBERGER. Yes. It is along the same line. I can't find it specifically, so I won't quote it exactly in your statement. I think you said something to the effect that the Nation is spending \$4 billion a year on the RCRA underground storage tank program. I just want to tell you I don't believe that number. At least I'd have a very hard time doing it.

You are not enforcing the Subtitle I regulations. You have only approved four State underground storage tank programs. One of those I remember very well because it goes way back to my very first amendment in 1985 when Vermont, within a year, put a program into effect, and you just finally got around last month, or something like that, to approving Vermont's program.

You are not spending money in the trust fund on clean-ups. And it strikes me that if the country is spending \$4 billion replacing underground storage tanks, it is not at your direction and it is not because you are enforcing the law that we passed here. It is a whole bunch of people out there in America trying to get ahead of some potential liability by replacing their tanks. I'm just wonder-

ing if that isn't a better characterization of what is really going on out there.

This country has a leaking tank problem. A lot of private parties and States are involved in the problem in one way or another, and they aren't getting a lot of help or a lot of oversight from the agencies of the Federal Government.

Mr. REILLY. Let me respond quickly and ask Don Clay to elaborate on the response to that question, Senator.

Senator BAUCUS. And please summarize as much as possible, too, because we are going quite a bit over our time.

Mr. REILLY. With respect to the underground storage tank program, it is an area of intense concern on the part of a very large number of people, resulting in constant communications with the agency about costs that are not just costs that are high and have to be borne and involve some sacrifice or pain, but in many cases involve people going out of business.

So it is a difficult program to administer. There are hundreds of thousands of these underground storage tanks. My principal concern with the way the bill would address that problem is that it proposes to make funds available to replace tanks, and there is a relatively small amount of money, as you know, in the annual program, the trust fund—I think \$85 million currently—and that is given now to corrective action, which it seems to me it must be.

So to attempt to do this worthy thing to accommodate the financial problems of people who need storage tanks replaced would, I think, take away scarce funds from an even more important function that has been played.

Could I just ask Mr. Clay to elaborate briefly on this?

Senator BAUCUS. Briefly.

Mr. CLAY. Very briefly, I think it is fair to say that the States are, in fact, running the programs we have taken to State implementation, so the fact that we haven't approved their plan doesn't mean they are not running. They are all running the program. The largest cost in those numbers is, in fact, corrective action. We have had over 100,000 leaks, and they are being paid for, and that is where the cost is coming from.

The big cost for tank replacement won't kick in until the late 1990's. It is 1998 when tanks will be required.

We do think those numbers are pretty good. We think that the corrective action part of that is, in fact, happening. We also note that there are 43 State programs that help augment this by the corrective action, and 13 have helped the people buy tanks. We think that's a very appropriate way to go.

Senator DURENBERGER. Thank you.

Thank you very much, Mr. Chairman.

Senator BAUCUS. Senator Warner.

Senator WARNER. Thank you very much, Mr. Chairman.

Mr. Reilly, I apologize for not being in attendance, but I am on the Intelligence Committee and we are very actively engaged with the hearings on Mr. Gates this morning.

I have been quite interested in the subject of recycling and have put in a bill, the Materials Recycling Enhancement Act. It appears to me that we have got to show that industry our seriousness in

supporting them as best we can in the efforts they are making to use recycling as a component of the solution to this problem.

I think the time has come that they should receive from government, both Congress and the Executive Branch, some clarity, be it in law or in regulation. I'm intent on doing that one way or another.

You touched in your opening statement on the flexibility that you need to develop the regulatory program. Question: does the current state of the legislation and the proposed legislation that we have before us now give you that flexibility?

Mr. REILLY. I think the—

Senator WARNER. First, do you agree with my premise that the time has come—

Mr. REILLY. I agree with your premise.

Senator WARNER. —and they are entitled to it?

Mr. REILLY. I agree with your premise, Senator, that the last thing you want to have happen is to generate a large amount of waste product, to collect it, to separate it, to have curbside collection programs for it, as we do now in 2,700 communities across the country, and then have no place to sell it. That is not something that we want to see happen, and we are watching that very closely.

For it not to happen we have to ensure that there are markets. The Federal Government I believe, as I said this morning, has a very important role in stimulating those markets. So, too, do State and local governments. We together are responsible for a large amount of our gross national product.

We believe that, in fact, we are at this time significantly increasing the reliability of those programs by enhancing Federal procurement for paper, for tires, for plastics, for cement, for a range of other products in the waste stream that we are now studying.

Senator WARNER. Mine is basically the hazardous materials, which is the toughest.

Mr. REILLY. I didn't understand that part of the question. It is hazardous waste recycling that you were referring to?

Senator WARNER. I addressed the broad subject, but I felt that hazardous is where I put the focus, the hazardous materials.

Mr. REILLY. Yes, sir. I think there is a need to be somewhat careful to encourage recycling, but to do so in a way that doesn't enhance the risk that may be run from the practices involved with moving hazardous waste. There is also a need to be sensitive to the sham recycling question which has posed a problem.

We tend to believe that an effort to try to be too prescriptive in a statute with respect to how this problem ought to be addressed should be avoided, and that the agency needs and presently has sufficient authority to discriminate among the various types of manufacturers and generators of this waste and develop rules that avoid sham recycling, and also that are protective of health and safety.

Senator WARNER. Would you consult with your staff and get back to us on what you'd like to see be done legislatively to give you the flexibility to deal, not only with non-hazardous, but hazardous recycling?

Mr. REILLY. Yes, sir.

Senator WARNER. One proposal before the committee requires that any regulation of recycling be "no less stringent than" the subtitle C requirements for disposal. Another proposal which I have introduced in my bill would give EPA the authority to determine the right mix of incentives and controls needed for recycling operations, with certain minimum Federal requirements.

Generally speaking, can you give us an assessment of the potential impact of the "no less stringent than disposal" requirement on recycling and the agency's authority to proceed with the proposed rulemaking?

Mr. REILLY. I'm going to ask Mr. Clay to respond to that one.

Senator WARNER. I don't blame you. I would, too.

Mr. CLAY. What I'm going to do is provide you with a more full answer, I think.

Senator WARNER. I think you'll need that.

Mr. CLAY. Yes, if you don't mind, Senator.

Mr. REILLY. But that "no less stringent" applies to recycling standards of hazardous materials.

Mr. CLAY. The whole recycling of hazardous materials is a very complex area which gets into the whole definition of solid waste. What we are planning to do shortly is come out with an advanced notice of proposed rulemaking that lays out our approach to that issue. We will also solicit public comment on that issue at that time.

We haven't precluded the need for a legislative fix. Once we have the advanced notice of proposed rulemaking out and we get comments on it, that may change, but at this time, until we get the public comment, it is too soon to say.

Senator WARNER. Let me see if I can sneak under the wire for one more minute. I thank the chairman.

This is a general question. As we look at the priorities in our country for the taxpayer's dollar—and I think I have a good record in supporting the efforts in this committee and elsewhere to clean up the environment, and as a member of the Senate Armed Services Committee I have worked with you personally and your staff in moving forward in the area of the military clean-up program—what we are beginning to find here and there are some isolated military installations which have been polluted over the years—many years—and, for a relatively small number of dollars, those installations can be isolated, and isolated in the judgment of objective environmentalists, so that there is no major threat to the environment.

Let's say it would cost \$4 million or \$5 million to isolate this, and there is no particular burning need for the community to have the land, or anybody else. But if we go in under the clean-up, we're talking about a couple of hundred million dollars. Are we getting to the point where we've got to look at our priorities, that the \$100 million could better be used in cleaning up a site which has a greater degree of threat to the environment and human life? Or the \$100 million might be needed for health or some other very serious priority on the American agenda.

Should we be giving some thought to legislation to give you some flexibility in that area?

Mr. REILLY. Well, Senator, I think you raised a very fundamental question, and it has received increasing attention in recent months.

The size of the Federal facility clean-up budget, as we now understand it, is unreal. It dwarfs the budget of my agency. It stretches out interminably. It involves resources that I, frankly, doubt will ever be made available, certainly if the \$300 billion-plus numbers that one sees are at all plausible.

I think that we need flexibility in making the kinds of decisions that you present, and that we need to be able to take into account both risk and cost in making those decisions.

As you know, we are never in the position of being able to say that \$100 million not spent on a facility clean-up will be spent on health, but in some broader sense in the society money is fungible, and the wealth of the society is going to be disposed of one way or the other, and if it is one way it won't be the other.

I think this is a somewhat larger issue than we can fully develop here, but I'm sympathetic to the question.

Senator WARNER. What I propose to do is to address the chairman and other members of this committee and see whether or not we can at least initiate a hearing to begin to isolate the parameters of this problem and to allow those that are well informed in these areas to come forth and express the views pro and con. But I must tell you I am concerned we'll ever have the money, and whether or not we are spending some money unwisely on this program.

I thank you.

Mr. REILLY. Thank you, sir.

Senator BAUCUS. Thank you.

Last week you signed the landfill rule. I'm hearing rumors that that's has been delayed and it is on hold because there are going to be some changes. You've already signed them. Will there be changes?

Mr. REILLY. There won't be any changes other than typographical changes, senator. The landfill rule that was made available to the court that is now in the docket that has been out and around and available will be preserved essentially intact.

Senator BAUCUS. In your view, to what degree will those new solid waste landfill rules tend to encourage some States to export some of their solid waste? That is, they may not have the space or want to pay for it in their own localities and be encouraged to export.

Mr. REILLY. Well, I don't think that leveling the floor and raising the standard of waste management in many States that do not now have the kinds of requirements that are in that rule for liners and for groundwater monitoring and leachate recovery and all the rest will cause them to export to get the differential advantage of less protective environmental requirements.

So to the extent that people have been exporting to shop forums, so to speak, to find places where it is cheaper because the environmental controls are less, that rule should operate against that and should remove that incentive.

Senator BAUCUS. I was kind of intrigued with your response to Senator Warner's question about creating a market so that communities can dispose of recycled materials. I'm intrigued because I'm not sure that the Federal Government, although it buys a lot of



paper, buys enough paper to create that market. A lot of paper is purchased by a lot of different individuals and communities and institutions in this country. What percent of the paper purchased for recycled purposes would be purchased by Uncle Sam?

Mr. REILLY. It must be really high. Don't you just think intuitively that that's something the government—

Senator BAUCUS. Intuitively that's got to be quite low. Second, I don't think you want a policy that encourages more Federal paper as a solution to creating a market for recycling paper.

Mr. REILLY. As the new specifications that GSA has developed, the 114 specifications that I described, take effect, the impact of that will be to raise that 30 to 40 percent current recycled produce number very substantially, I think. But we have not only the Federal Government to look to. The newspaper publishers are obviously using some enormous amounts of paper, and they have proposed to double the amount of recycled product.

Senator BAUCUS. That's correct, and that's why in our bill we included utilization rates for paper of 40 percent. That's the paper industry, which is general paper, which includes newsprint. That's their view. They feel that they can achieve a utilization rate by 1995 of 40 percent, so we put it in the bill.

Second was plastics. By 1995 it will be 25 percent.

We do have a glass minimum content provision which I think the glass industry can meet without a lot of difficulty. They're not kicking and screaming and complaining.

So what's wrong with legislation that sets the utilization rates of those amounts for those industries by those dates in order to help encourage a market so we're not just relying upon Uncle Sam to buy all the paper.

Does EPA have a glass procurement policy? Does it have a plastics procurement policy?

Mr. REILLY. We do, in fact, have guidelines in the works on each of those elements of the waste stream.

Senator BAUCUS. Again, my specific question: why not include the provisions that the industries say they can meet?

Mr. REILLY. I think that one characteristic of a—

Senator BAUCUS. Again, to create help in a reasonable, sound, sane way to help create the market so that people are able to put their solid waste out at the curbside and it is picked up and sold by the municipality.

Mr. REILLY. I think that one characteristic of the paper, as of a lot of markets, is that there are national markets and there are also regional economic characteristics and realities. You may find that one part of the country achieves a very different result as a consequence of the presence of de-inking facilities and paper mills that can handle recycled product or lack thereof than others.

I don't think that it is necessarily going to be efficient to try to instruct in what the optimum result is.

Second, it is not inconceivable that in some areas of the waste stream we could go significantly further than those numbers. I think that's something that, given the upward curve of current trends, we ought to encourage.

Senator BAUCUS. But don't we also want to minimize confusion among States? For example, Maryland requires 12 percent recycled

content by 1993, and 20 percent after that. Wisconsin requires 10 percent by 1992 and 45 after that. Do we want 50 separate content utilization requirements in our country?

Mr. REILLY. I'm sorry. I missed the first part of that. But I think, Senator, that when you talk about different State circumstances you are very much talking about local market situations, and they may differ very significantly from one State to another.

Senator BAUCUS. What about the newspaper industry? Some of these States have certain minimum content requirements. They vary according to States. If I manufacture newsprint, how am I going to know what percent content to sell to all of these different States that have different requirements? Do we want that?

Mr. REILLY. Well, I don't think that we want to have a prescriptive Federal approach to something like this. I think that we can try to stimulate demand and the pull side of the equation and encourage industries to do the best that they can.

Senator BAUCUS. Doesn't it depend upon the prescription? Again, we're talking about utilization. We don't have a minimum content except for a hammer, and the industry says they can meet the utilization rate. That's not a prescriptive minimum content requirement.

Mr. REILLY. I don't think that industry has testified in favor of minimum content requirements.

Senator BAUCUS. I'm talking about the utilization provisions in the bill.

Mr. REILLY. I think these, like others, are goals that we share, and we differ on how directive or prescriptive or necessarily federally intrusive the solution to the problem needs to be.

Senator BAUCUS. My time is up.

Senator Chafee.

Senator CHAFEE. Thank you, Mr. Chairman.

On page eight of your testimony, Mr. Reilly, you get into an area that surprises me. You talk about the RCRA program today costing society \$32 billion a year. Then later on you say of that, \$17 billion alone is municipal solid waste. So what you're talking about is that the RCRA program, from the Federal part of it, part C principally, costs \$15 billion. Am I correct on my figures? If it costs \$32 million, and garbage locally is \$17 million, that leaves \$15 million?

I don't even know why you even get into that, because I don't think anybody—you or anybody in the United States—is questioning that we ought to continue as vigorous enforcement of the RCRA program as we currently have.

You've taken trips abroad, as have I. Anybody who has been in Krakow, Poland, or in the southern part of East Germany knows the absolute destruction that comes from the absence of a RCRA program.

I just want to note that if you are going to write testimony in the future I highly recommend you leave out those points you have made here.

Mr. REILLY. They were in the interest of full disclosure, Senator.

Senator CHAFEE. In 1927 on the highways of the State of Rhode Island 111 people were killed by automobile accidents. In 1967, 40 years later, with six times as many cars driving 35 times as many miles, the death rate on our highways wasn't 111, it was 97.

I asked why that came about. The principal reason is that in 1927 we didn't have safety glass in our automobiles, and the slaughter on our highways was incredible. Yes, there has been better engineering of our highways. Yes, there has been better driver training and education and enforcement. But the principal reason, I was told, was the advent of safety glass.

Safety glass is more expensive than the glass we used to have, but there isn't anybody in his right mind who is going around saying safety glass is too expensive and we ought to go back to that old glass that killed a lot of people.

So it isn't an argument that anybody is going to discuss. We have endured in our society the additional cost of safety glass, and we've got to remember that. We reject that.

As one of your outstanding fans, may I highly recommend that you drop this reference to the cost of RCRA. Or, if you do, that you follow up in your discussion of it what Eastern Europe looks like, which I know you have seen, as have I. Anybody who has been to the environs of Krakow or the southern part of East Germany just comes away stunned with what a nation is like that doesn't have these costs.

So it isn't a major imposition on the economy of our country; it is a saving just like inoculation and vaccinations are savings. We all know what the cost of Love Canal was because we didn't have a RCRA.

Briefly I'd like to just touch on another thing.

We had a lot of testimony the other day on the following subject: that we regulate hazardous waste sites but we don't regulate hazardous waste recycling sites. Let me just give you a little illustration.

If somebody is running a plating facility in our State and uses cyanide, it is a hazardous waste and it is costly to dispose of that. However, that same outfit could set up a subsidiary that says they are going to recycle this hazardous waste, they are going to get the cyanide out of there. Label that a recycling facility, and that is not subject to regulation.

Now, in 1980—this didn't happen on your watch—the EPA said that they were going to issue and promulgate standards to regulate hazardous waste recycling. Well, they didn't do it. They didn't do anything. The testimony we had last week was that 20 percent of the sites on the national priority list, the superfund list, are former recycling operations. In other words, we've got a real tiger by the tail here. The trouble is that we don't have it by the tail, and we are suffering the consequences of waste recycling operations not being licensed or controlled.

My question to you is: do you have any plans on this? Do you have any authority? Tell me what your thoughts are.

Mr. REILLY. Senator, our authority to regulate recycling facilities has been questioned over the years, and recent case law raises considerable doubt about that authority.

We have the intention to issue an advanced notice of proposed rulemaking on this question within the very near future, and it may well emerge that this will be an area on which we will want to see further legislation. This may be something that we will support as an amendment to RCRA.

Senator CHAFEE. That's what S. 982 does, which is a companion bill that we have here.

Mr. REILLY. Well, there are a number of things we want to learn in the advanced notice of proposed rulemaking prior to making a decision at this time, certainly, and we expect to have that position very soon.

Senator CHAFEE. Well, that's what they said—

Mr. REILLY. I said the case law has not been helpful. Recent case law has been more encouraging on the question that you raised.

Senator CHAFEE. Press on, would you, with this? I don't think you can say we've been inpatient, since May of 1980 the agency indicated they were going to do this.

S. 982 would give you a hand in achieving this goal.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Senator.

Senator SYMMS.

Senator SYMMS. Thank you very much, Mr. Chairman. And thank you, Mr. Administrator.

I want to comment briefly on part of Senator Chafee's question. If I understand it right, Senator Chafee, what the administrator is saying is if we focus our attention on those things that are the biggest risk now—it may well be that safety glass between 1927 and 1967 was a big issue that saved a lot of lives, but if I look at page five, the administrator answered a question to me earlier that said there are seven billion tons of low toxic waste in subtitle D as opposed to 180 million tons, I think you said—

Mr. REILLY. The 7.6 billion may not be toxic.

Senator SYMMS. That's what I mean. And the 180 million of the other—what you are saying is that if we focus our resources on those things that are the highest risk we can do the most good with the least amount of expenses on the part of the public and keep our economy strong, basically. So I don't really think that anybody would want to advocate, because of cost, to go back to non-safety glass. That was a technology that was developed. I just don't think that's relevant to page 8 of the testimony. I think what is in page eight is important, from my point of view.

I want to ask a two-part question with respect to the interstate transport of municipal solid waste. So much attention has been paid to States fighting back and forth about the material going across the State line.

The first part is: what is the state of the interstate waste transports today in general, from your view as Administrator? The second part of the question is: do you believe EPA should or should not advocate differential fees for interstate transportation of municipal solid waste if there is a problem?

Mr. REILLY. Senator, the interstate transport issue is one that obviously is of as much concern to the American public, I think, certainly in the receiving States, as any other aspect of the problem we are addressing here.

I mentioned earlier that the total amount of municipal solid waste generated in the United States, according to the latest numbers we have, was 180 million tons. Of that, 15 million tons or so, 8 percent, passes in interstate commerce. There are some 38 States that are both importers and exporters of that waste. I think there

are five that are only exporters, and four that are only importers, and one, Montana, that neither imports nor exports.

The question of how you deal with the equity concern raised by the receiving States is one that we have thought a good deal about, and the differential fees approach has many attractive features, certainly from the point of the receiving State.

To the extent that a community—take Seattle, for example, the one that we discussed earlier—goes to the great difficulty of establishing a program with all of its administrative costs, its educational requirements, its curbside collection and separate, and specific charges for volume-based waste, suppose it does all of those things and it achieves, as Seattle has achieved, a 38 percent recycling rate, and then finds that one of the great advantages that it has won—that is stretching out the life of its landfill—has been lost by other waste senders who took advantage of that capacity and filled it up.

Obviously, if I were in the situation in Seattle, I would want to impose at least equivalent cost or assure that consumers in those sending States were bearing equivalent cost as my own constituents are.

Having said that, I guess I have some reservations, knowing the feelings on this issue in some of the sending States, whether differential fees at a level that would ever be Constitutional would be fully effective in keeping out waste.

As a matter of policy, the administration's position is that this is something that we regard very sympathetically. We certainly look with favor upon volume-based pricing and ways to ensure that the kind of problem I described doesn't happen. But we do not, ourselves, support any curbs, bans, or fees on interstate waste transport of municipal solid waste.

Senator SYMMS. Where does that put you with respect to the Coats bill?

Mr. REILLY. I have not studied the Coats bill in detail but, consistent with that position, we would not support it.

Senator SYMMS. It seems to me that the technologies are available to build solid waste disposal landfills with some of the modern technologies that are used with liners and so forth. Are some States just simply trying to shirk their responsibilities with respect to the full cost pricing? Is that basically what is happening? They just simply don't want to spend the money?

Senator SYMMS. I think that's right. And I think the desirability of the new landfill requirements is made clear by the fact that you simply don't have the same level of protections afforded for groundwater in some States that you have in others. To the extent that results in lower cost, you may create an incentive to ship.

Senator SYMMS. Thank you very much. Thank you for your excellent testimony.

Senator BAUCUS. Senator Durenberger.

Senator DURENBERGER. I'm going to try to ask some quick questions and get some quick answers.

One is: if the administration opposes the Coats bill or opposes a State ban, would the President then veto legislation that gives the States authority to impose these bans?

Mr. REILLY. I'm not going to say anything more about veto than I already said in my testimony with respect to the provisions on the decision-making process within the Executive Branch on regulatory review.

Senator DURENBERGER. So the President hasn't taken a stand on whether he'd veto it or not?

Mr. REILLY. No, sir.

Senator DURENBERGER. Suppose the authority for States to ban was passed and everybody bans New Jersey waste right off the bat?

Mr. REILLY. I see an empty chair here.

Senator DURENBERGER. Well, we've been into this before when the Senator from New Jersey was here.

Senator BAUCUS. He's looking out for his interests; he is now on the floor dealing with the transportation of garbage.

Senator DURENBERGER. I'm just curious as to whether or not you have been thinking out ahead about this possibility and the impact it would have on New Jersey, looking at things like alternatives—a capped fee, for example, a differential fee. We got into this debate here in one of these hearings. You charge one fee for solid waste in the State and one for solid waste going outside the State.

Mr. REILLY. A lot of attention and artful drafting has gone into that provision. I compliment it, though I can't support it.

Senator DURENBERGER. What about the possibility—let's say the President doesn't veto this bill, the bill passes, and all of this happens. Are you looking out for the New Jerseys of this world and looking at some of these alternatives?

Mr. REILLY. I think you've got to be very careful, Senator. There is, as you have recognized in the bill, a lot of movement among contiguous States of watershed transport. You've got to be careful, I think, to protect that. There is no reason environmentally to get in the way of it, and there could be potentially undesirable environmental consequences to erecting obstacles to it.

What would happen in States that don't have adequate capacity that have been relying upon the availability of capacity in their receiving States were there to be a sudden imposition of an obstacle? There would probably be a lot of undesirable disposal of waste, of midnight dumping, or of less than optimal environmental protection for waste that can't be sent anywhere and that has no capacity.

Senator DURENBERGER. I think all I'm saying is, on the basis of some of the hearings and discussions we have had here, is that one of the reasons we legislate is to try to predict what the future is going to be like, and unless somebody else is trying to help predict that future the reality of the Coats Amendment eventually getting up and getting passed, and then all of these things happening, is right around the horizon.

I would hope that we can, in some form, start dealing with some of these alternatives, not just because the Senator from New Jersey is on this committee, but because he represents the realities of interstate commerce.

Let me talk about solid waste a little bit.

Mr. REILLY. Let me reiterate a point I made to Senator Baucus, that we are very pleased to have our staff work on the details of these matters and try to communicate to you the things we think

we understand about the consequences of various measures toward certainly avoiding exacerbating the environmental problems associated with erecting obstacles to waste transfer.

Senator DURENBERGER. I want to ask about solid waste a little bit.

At one time EPA had a proposal on the table to require 25 percent source separation from wastes that were headed to municipal incinerators. I'm curious as to why that is no longer on the table. I think you know that I had a similar amendment in the clean air bill trying to set up some rules on incinerators, but my amendment actually required actual recycling, not just source separation, and it gave State and local officials, as I recall, the opportunity to adjust the percentage based on local conditions.

In your mind, is there any willingness to continue to look at that proposition and to see if it may be applied as a condition in this legislation?

Mr. REILLY. I think we would take the view that we have issued very restrictive standards, very protective standards, for incinerator emissions under the Clean Air Act, and that those are protective of health and safety, that you can design—and people are designing—incinerators today that meet our high standards—higher than they have ever been before—of environmental protection, and that those are sufficient.

Senator DURENBERGER. Those are air standards. Those are emission standards you are talking about. You didn't reply to my question about source separation and recycling.

Mr. REILLY. I will add that if I were running one of those facilities there are a lot of things that I wouldn't like to see go in them. Increasingly we are seeing—something like 90 percent of lead acid batteries, which have been a particular problem in the waste stream for incinerators, are being recycled. That is happening, and that is very encouraging.

I think there are other kinds of things that don't burn, or don't burn well, or require BTUs rather than provide BTUs that ought not to go in them.

We are not proposing, however, to second guess that enterprise to the degree that some might like.

Senator DURENBERGER. Thank you.

Senator BAUCUS. Senator Lieberman.

Senator LIEBERMAN. Thank you, Mr. Chairman.

Let me ask a question first about pollution prevention, if I can.

I believe you used the term "technically infeasible," that is, that some parts of the sections of the proposal on pollution prevention are technically infeasible. I want to ask you, naturally, which ones.

The way I view the pollution prevention sections, they are pretty moderate. Industry sets its own goals, submits reports to EPA or the State upon its request.

The basic point here is not only to get people and industries to start planning, but also to give us some sense of accountability, because without some ability to review how are we going to know that the reductions that are being claimed are real? So what is technically infeasible about what we are trying to do in the pollution prevention section?

Mr. REILLY. As I understand it, the requirements would be—certainly the time frames cannot be met. We cannot conduct the surveys, cannot get out the rules, cannot get the responses by the States in the amount of time specified to do the really large variety of onerous things that they are going to have to do.

Second, I think that, considering the tremendous diversity in the industrial community, while it might be straightforward to prescribe standards for certain kinds of mature and settled industries, it would be extremely difficult, if not impossible, to try to do so for others.

Some I think are so rapidly changing, so dynamic, and we have very insufficient expertise or knowledge of many of those industries, and I don't think we can begin to prescribe realistic standards that wouldn't risk having the effect of hobbling that dynamism and that innovation.

I think particularly of an experience that I had at 3M Corporation where I was exposed to the innovations they have brought on to reduce the use of methochloroform, which is an ozone-depleting gas, by fundamentally altering their technology.

It is exactly the kind of thing one hopes happens in an innovative economy. It is what characterizes progressive companies. But we would never, ourselves, have had the basis for saying that the corporation could, as they are proposing, virtually phase out methochloroform, nor could they, as I understand it, as recently as a year before they developed this technology.

It worries me that we would be invited to second guess those kinds of questions, anticipate those kinds of innovations, comprehend those technologies, because I don't think we'll ever do that very well. I think it violates my sense of how our functions are our functions and theirs must be left theirs.

Senator LIEBERMAN. If I may say so, I believe that the two hesitations that you have stated are not fundamental, and in that sense give me some encouragement—perhaps I'm reaching for it. The time frames are obviously something that we can discuss and negotiate to a level that you think is more appropriate.

I also want to stress that we are really not asking you to prescribe. In the original legislation that I put in on pollution prevention, in fact, there was no prescription. It doesn't even require guidelines. S. 976 requires some guidelines.

I want to get into another question, but I hope you'll reconsider the possibility of Federal legislation in the pollution prevention area. I, for one, would be happy to work with you to see if we can reach some mutually agreeable way to do that.

Mr. REILLY. I have to say too, Senator, that I think the approach of asking industries to develop and submit plans for pollution prevention and source reduction would, itself, begin to lead us down the road that I mentioned before.

Now, EPA has, at times, supported planning by industry to do that very thing. I have become persuaded that would not be a very good idea, particularly because I think it would start out perhaps as not intrusive, but lead eventually to our having to police that system. Again, I suspect that's not the best thing that we should be asking industry to do to try to achieve this result.



Senator LIEBERMAN. If I may, then my concern would be how we can get industry to achieve the benefits of planning without requiring this kind of effort, which is a very non-controlling, non command and control effort. In other words, some companies are responding positively. Some are just going along with the old ways or closing up, and neither of those is an acceptable alternative or should be to us.

Mr. Chairman, I have another question but the red light is on. Maybe I should yield and come back, unless this is the end.

Senator BAUCUS. This is not the end.

Senator LIEBERMAN. OK. I'll yield.

Senator BAUCUS. I want to follow up, Mr. Reilly, a little bit on the line of questions that the Senator from Connecticut has asked, and also the point that the Senator from Rhode Island made earlier. And it ties in to a point that the Senator from Idaho made.

You mention in your testimony, I think, it is \$30 billion for both hazardous and solid waste cost of regulation on industries. The Senator from Rhode Island made an excellent point. Were it not for those provisions, the cost to American society would be much greater—much greater. I don't think there is anyone in this room who disputes that. And not only in human health, but also the environment.

Now, I also think we should take that basic point one step further. We can minimize the increase in those costs in pollution control if we also pay more attention to pollution prevention. It is axiomatic.

So the question is how to best encourage more pollution prevention in order to both minimize the pollution control costs and also to maximize human health protection and the environment.

There are many companies, as you indicate, who, on their own, are attempting to address waste minimization. Obviously the Senator from Connecticut, the chairman of this subcommittee, and I think most Senators on this committee are trying to find ways to encourage our country to go further than it already has. Our bill attempts that by taking not the extreme position of command and control, but also not the absolute laissez faire position to do nothing and let everybody try to figure it out for himself, but rather a middle, moderate position of trying to encourage a solution here.

Now, there are many who believe that not only will we, if we pursue this, accomplish the goal of less pollution control cost and less pollution in this country, but, in addition, entirely separately and independent of all that, encourage American industry to be more efficient and have great rates of return on capital invested in pollution prevention.

For example, I have before me testimony from a major organization. They state that, "Source reduction actions have typical returns on investment far exceeding that of virtually any other use of corporate dollars." That is in all the plants that they have studied.

"Second, source reduction actions can improve manufacturing efficiencies significantly. The average yield improvement per source reduction action at these plants was 6.8 percent."

So there is also the competitiveness/efficiency point in addition to environmental and human health protection with greater source reduction.

Now, I must say that, in answer to the question posed by the Senator from Connecticut, I was a bit disappointed. I was encouraged, as the Senator was, but a bit disappointed that you don't go a little further in trying to find a rational, responsible way of dealing with this.

If it is true—and it probably is—that EPA does not have perfect knowledge in order to develop these guidelines at this point, by definition, when EPA would be working with industries in developing their plans—that is, given the present state of the art—those plans would not be overly intrusive because we just don't have enough information to be overly intrusive. This would be a process that would evolve over time.

Now, I understand your point that we don't want these plants to eventually dictate industry's actions. I don't think there is anybody on this committee who wants that. But to state that danger is to not attempt to solve the problem.

We have two choices: either try, or do nothing. The Administration, as I hear it, is doing nothing if it relies on a voluntary program. We here in this committee are attempting not to be too prescriptive, but just ask industries to develop plans, work with EPA, and this will evolve over time.

What in the world is wrong with that?

I also mention that because I think that some industries actually would like these plans. Why? Because, as many commentators on American society have noted, we Americans tend to be too consumption oriented or too instant oriented. We don't think long-term enough. Other countries plan a little more than do Americans.

There are a lot of reasons for that. One is because the SEC reporting requirements, quarterly reports, etc., force corporate managers to think in the short term. They are worrying about the Securities' analysts, assessments of their company's performance in the short-term. New York money managers that manage these pension funds look at almost daily performance of companies, let alone annual, in deciding whether or not to buy or sell a certain security.

We are so much geared in this country to short term, it just seems to me a plan along the lines we are outlining here would help industry, help a company begin to think a little more down the road, to plan a little bit more, to be a little more efficient so that we can compete with the German plants, with the Japanese plants, and make a product that is more efficient than it is today.

What is wrong with at least attempting to try to find a solution to that?

Mr. REILLY. Senator, I completely agree with you that pollution prevention and source reduction are the directions that we should go, both for environmental as for economic reasons and efficiency reasons. But I think it is difficult for us to assume that we know how to tell corporations how to do that.

Senator BAUCUS. That's now what we are doing in this bill. We're not making that assumption.

Mr. REILLY. Let me make clear that I believe in planning. I think that corporations that have been most successful, in fact, have plans and structures that required reviews of all major decisions in a company in order to ensure that decisions that entail any potential creation of liability were made at a very high level. And even if a product would cost more to make in a certain way that avoided the use of a toxic, very often that decision was, in fact, taken.

You can't have that degree of sensitivity and knowledge without plans, and I think the good corporations have plans.

I'll tell you a story of a conversation I had with—

Senator BAUCUS. I guess there that good corporations do, but we are trying to encourage a way so that more of American industry does.

Mr. REILLY. Yes.

Senator BAUCUS. The top 5 percent always do well. We're dealing with the bulk, trying to encourage the bulk to also plan a little bit more than it now is.

Mr. REILLY. I see the EPA role as working to figure out how you measure source reduction, which is still something that we have a lot of problems with. We don't know how to adjust for certain kinds of upward and downward movements in the production process and how to measure the unit of production and some of those issues that we have to figure out.

We have to ensure that our own regulatory programs support pollution prevention. I think they do today to a degree that they never have in history.

We have also to provide technical assistance and information, and we are doing that, and I think setting a fairly high standard in our 33/50 program, which will get hundreds of millions of tons of pounds of toxics out of the system by corporations which want to take public credit for the measures that they are now pursuing.

Senator BAUCUS. That's purely voluntary; is that correct?

Mr. REILLY. It is voluntary. The releases, however, are lawful releases. These are after they have complied with all air, water, and waste regulations.

If I might just communicate what I get as the sense increasingly of corporate responses to some of these problems, I met with the chairman of a major consumer products corporation recently, and was exposed to a whole range of things that company is doing—using concentrates, for example, and compostable products, and recyclables—recyclable plastics, as well as paper, and recycled product in their own products.

At the conclusion of this, which was a fairly dazzling exposure to a very substantial commitment to this area, this individual said to me, "You know, we're not doing these things for you. We're not doing them because the law makes us do them. We are doing them to maintain an increased market share. Our customers, our consumers, are demanding this."

I think it is that sense of how to foster greater marketplace awareness, more reliable information in the marketplace about whether or not you really are getting a product that has been recycled or can be recyclable or compostable, that we really need to stimulate at this time.

You take that ethos in the society, together with the very high liabilities that now attend the creation of toxics, and I think you've got pretty powerful incentives to move in the direction that you and I both want to.

Senator BAUCUS. Those companies are to be commended, but I'm concerned about those people, the consumers, the American public, who is on the receiving end of an unnecessarily high amount of toxic materials issued by those other companies that don't.

Senator Symms.

Senator SYMMS. Thank you, Mr. Chairman.

Bill, I totally concur with your analysis. I have always believed that the best way to work out some of these problems is by a cooperative agreement between the government and the people, rather than using the force of whips and guns and antagonism and punitive actions. It creates such a dissention in a society that oftentimes it doesn't work.

But if I hear you correctly, you are saying that there are better ways to encourage recycling than to have specific mandates, whether a newspaper has to use 40 percent recycled paper or 25 percent. You are saying it is better to let the market system and the consuming public dictate some of that, rather than just use force of government?

Mr. REILLY. Well, I think that, recognizing that we, ourselves, in the government sector are a large part of the market and can stimulate the market and help create the market and provide assurance and certainty that there will be a demand if investments are made in de-inking facilities and other facilities to create product from recycled material, the answer then is yes.

Senator SYMMS. I had a conversation with one of the major newspaper chains last week on this subject, and they told me that they had already made a decision and they won't buy paper from companies that can't provide recycled paper. That didn't have anything to do with Congress; is that not correct?

Mr. REILLY. That is correct. The newspaper publishers have, in fact, proposed to double their recoverables in—I forget the time frame, but I think it is a fairly short one.

Senator SYMMS. I was interested in the part of your testimony with respect to Seattle, Washington, and variable pricing or full pricing. What is your definition of what the full cost price is and what the variable rate pricing is, and how does that work? Do they have a scale that goes along with the garbage truck, or what?

Mr. REILLY. Essentially, as I understand it, they implemented a program in 1981 that involved a lot of education and a lot of work with the generators of the waste, with households, to make them understand the waste problems they had in that community, that they were filling up their landfills, that they were imposing stresses on the environment, and they got a good deal of public acceptance for that and provided cans to households to put their waste out at the curbside. They have curbside collection and they segregate their waste stream.

The simple basis for it is that if you have one can it costs X amount, and if you have two cans it costs X plus some additional amount.

They have found that the number of cans per household has gone down very significantly in the time that the program has been in effect. Somebody said to me, "You do a great favor to somebody if you go to their house and attend their party and offer to take a bag of garbage home for them." That's the incentive that is driven home not in the property taxes, not in hidden fees that are assessed, but right directly as a consequence of the generation of the waste.

Senator SYMMS. It is the same principle that people discovered in the sale of water or water delivery, even in an apartment building, that if there is a meter on each house people tend to use less water.

Mr. REILLY. Exactly.

Senator SYMMS. Could I ask you one other question before we run out of time? I know you have been very patient this morning, and I thank you for that.

I saw a machine in Idaho one time—it has been about three years ago—where they recycled newsprint. It is a hydraulic press. I think the machine was made somewhere in Europe. The product that comes out would be pelletized newsprint. It looks something like rabbit pellets, or these sawdust pellets that are burned in stoves and generators and so forth, and they claimed that the product had as much Btu's as coal, or wood pellets, and it was a great way to help get through the newsprint problem—just burn this up in coal fire generating plants and other burners.

Has EPA had any contact with that, or do you know anything about that?

Mr. REILLY. I'm not personally aware of it, and we are not here at the table, but there are a lot of innovative technologies coming on. We would be glad to look at that one.

Senator SYMMS. I'd love to see if the agency has any information about it, and I'd like to get you the information. These folks happen to be people that I know in Idaho. They don't make the machines, but they market them. It is a great way to use up the newsprint. But I was curious about what happens to the ink if you burn newsprint and if there is a toxic problem, and if you knew anything about that.

Mr. REILLY. We'll look into it, Senator.

Senator SYMMS. Thank you.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Senator.

Senator Lieberman.

Senator LIEBERMAN. Thank you, Mr. Chairman.

One last question, Bill, in a different area, and that is the whole question that we touched on a few times in our previous hearings of packaging and the way we package and contain goods in this country. I know one of the interesting statistics to me is of the 180 million tons of municipal solid waste, about 30 percent of it is containers and packaging. I gather that, as we know from our travels abroad, that we tend to package less efficiently than people in other countries do.

This is clearly an area which is either going to be changed by voluntary action by those who are packaging or by Federal action, because it is beyond the purview of the State and local governments.

The bill, S. 976, has a fairly mild procedure for essentially requiring designing for recycling to create some incentives for companies to design products that are more efficient in that sense to reduce the solid waste stream, and also to make sure that they are designing packaging that is more easily recyclable to make the whole process of recycling easier.

What do you think about the sections of the bill? More generally, what is your opinion about the Federal role here in designing and encouraging designing of packaging for recycling?

Mr. REILLY. Well, I think the hierarchy ought to be— as I believe the New England Governors, in their work on packaging suggested—reduce first and recycle second with respect to packaging. I think the direction that we have pursued with the Federal Trade Commission of trying to encourage labeling will at least help to make the products used, even if they are excessive for packaging, more benign, less problematic, more recycled or recyclable.

The advisory committee, as I recall, that is proposed to be set up in this bill, is something that might well be helpful to us as we undertake this exercise. There are many considerations involved.

Obviously the food processing industry is sensitive to questions of bacteria and freshness and segregating their product from contamination, and they have raised concerns of that sort. Others have made clear to me certain kinds of packaging decisions that seem preposterous where you have a relatively small item that is packaged in a large cardboard, and that it is not marketing but is theft control that prompts that choice.

Senator LIEBERMAN. Are you thinking of CDs?

Mr. REILLY. I wasn't thinking of CDs, but one could. CDs are offenders against that packaging principle that I mentioned.

Obviously this is a very important area because of the numbers you cited and the amount of packaging material that is building up in our landfills. It is one I don't think one can be too quickly prescriptive about without ignoring some of those other realities that I mentioned, but it is something that I would be very interested in working on in the way that is suggested with this advisory group.

Senator LIEBERMAN. I appreciate your answer. I think the work that you are doing on the labeling is important, because obviously if you have a product that says it is biodegradable and it is not, then it is not going to contribute to a solution.

Mr. REILLY. It is the worst thing that could happen, I think, to take this tremendous sense that the country has that we generate too much, we waste too much, we throw away too much—much more than necessary—and therefore we want to correct that, we want to change our habits, as we have changed our values, and to then have information not be reliable, not be dependable, I think would produce a wave of cynicism.

Senator LIEBERMAN. I agree. I thank you for your moderately favorable response to the idea of a packaging board.

I think that this is one of the ways where Federal authority—there is no overlap. Only the Federal Government can do it. And it may be one of those ways where establishing some guidelines can—in other words, a relatively small input can have a major affect on the total solid waste stream and the capacity to recycle what is left of the stream.

Mr. REILLY. I think you are right.

Senator LIEBERMAN. So I commend your interest in that. Thank you.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you, Senator.

I also want to thank you, Mr. Reilly, for coming and appearing today and helping to flesh out some of the differences between this committee and, unfortunately, the administration.

We intend to proceed. We will mark up this bill in a matter of weeks, I think. But I must say in our form of government with the separation of branches between the Executive and the Legislative, as with the Clean Air Act, our task here in the Congress would be much more fruitful if we had the cooperation of the administration. I urge you to tell the President that it is to the country's advantage—and I think his advantage, as well—to move much more forthrightly and more aggressively than he has thus far.

I am a bit perplexed. I don't quite understand the reluctance to deal with a very major issue that is facing our country.

We in the Congress will proceed without the President's cooperation, but if we had the President's cooperation I think the solution would be obtained more quickly, and it probably would be obtained with much less rancor, gnashing of teeth, and may even be a better solution, so I urge you to be very, very strong in your advice to the President to be more aggressive in dealing with this problem than he has thus far.

Mr. REILLY. Well, Senator, I appreciate that. We have, in fact, cooperated very productively and fruitfully in the past. We will again, and we will look forward to that. We will look forward, also, on these matters, to a continuing dialog with you, and to a search for ways that we can find to steer through this thicket and pursue the goals that you obviously feel very strongly about, as do we. We differ perhaps in how we would pursue those goals, but we might, as we continue to talk, identify gaps that we can close.

Senator BAUCUS. Thank you.

Mr. REILLY. Thank you, Mr. Chairman.

Senator BAUCUS. The hearing is adjourned.

[Whereupon, at 11:53 a.m., the subcommittee adjourned, to reconvene at the call of the Chair.]

[Statements submitted for the record follow:]

#### PREPARED STATEMENT OF WILLIAM K. REILLY

Good morning Mr. Chairman and members of the committee. I am William K. Reilly, EPA Administrator. With me this morning are Don R. Clay, Assistant Administrator for Solid Waste and Emergency Response, and Sylvia Lowrance, Director of the Office of Solid Waste. I want to thank you for this opportunity to share EPA's views on solid waste management and the reauthorization of the Resource Conservation and Recovery Act (RCRA).

#### OVERVIEW

The Resource Conservation and Recovery Act is far-reaching legislation. The current law is pivotal to EPA's overall goal of protecting human health and the environment. Compared to other environmental legislation, RCRA, particularly the 1984 Hazardous and Solid Waste Amendments mandated programs, still represents a relatively young program. In the past decade EPA, and the Nation as a whole, has achieved tremendous gains in terms of improved waste management. The reauthor-

ization debate is a unique chance to recognize our many successes and to learn from that experience to improve future waste management.

The issues under debate are ones that are of critical importance to our nation's citizens, industry and all levels of government. The future of waste management, for both municipal and industrial waste, will be clarified by this debate.

The RCRA statute is designed to prevent environmental contamination by ensuring safe management of solid and hazardous waste. Because of RCRA's broad jurisdiction, its present and potential regulatory impact upon governments (Federal, State, and local) and upon the national economy is enormous. RCRA already embodies a vast regulatory program. Today's program avoids tomorrow's Superfund sites by assuring "cradle to grave" management of hazardous wastes. As we turn our attention to Subtitle D, the program addressing all other solid waste, we must recognize that the universe is potentially many times the size of the Subtitle C program, and far more diverse. In the broad context of all environmental hazards and problems, those addressed in RCRA generally pose low risk to human health today, and pose variable ecological risks. RCRA's historical focus has been to protect groundwater for future use. Any changes to RCRA need to be based on a consideration of whether the dollars spent to carry out the new policy are reducing more risk to the public than if they were spent on other environmental programs.

Because of the potential scope of these programs, it is essential that we carefully define our national goals in addressing these issues. We must ensure that we target only significant risks to human health and the environment, endeavor to make our evaluations scientifically defensible, and explore the full array of regulatory and non-regulatory options for addressing these problems. Moreover, we must recognize that in many cases we are not beginning this debate with a blank slate. States and localities have for years addressed many aspects of solid waste management. Their interests in this debate should be given great consideration.

#### GUIDING PRINCIPLES FOR WASTE MANAGEMENT

Against this backdrop I'd like to share with you the principles I believe should govern development of our nation's waste management program. Six major principles influence my vision of a comprehensive and workable waste management program for this country. These are principles that we are applying today as we implement the hazardous waste program and which I believe should shape this legislative debate.

First, we need to target our scarce governmental and societal resources to the most serious environmental problems. Setting priorities is difficult under the best of circumstances. Setting environmental priorities for the Nation as a whole is a supremely daunting task. But it is crucial to do so—especially when one considers the widespread fiscal problems facing all levels of government today. Sound priorities will concentrate strained resources to our greatest advantage. Clearly, making these decisions requires reliable data and the use of good science.

Second, when seeking to reduce risks, we must employ the most efficient, cost effective means to achieve our goals. The best means of solving our nation's waste problems are not necessarily the most expensive, nor the most intrusive, and are not always located at the Federal level. We should develop and fully explore creative solutions to waste problems—especially market-based solutions.

Third, environmental protection, especially in the waste management area, is a partnership—the Federal Government working in partnership with State and local governments. Waste management is one of the most localized environmental issues we deal with today. States and localities have traditionally had the lead management role in solid waste, and I believe that this should continue to be the case. Most States are authorized to administer part of the RCRA hazardous waste program; by the very nature of the State authorization program, States have the lead role in implementation and enforcement of those parts for which they are authorized. This concept of a strong State-Federal partnership is especially important in the area of municipal solid waste, and we can gain from our experience with the time-consuming hazardous waste State program approval process by insuring that the State approval process under Subtitle D is more streamlined.

Fourth, environmental protection is not just the responsibility of Federal, State, and local government; it is the responsibility of each and every citizen in the United States. Each of us—as individuals and as part of institutions—has a role in sound waste management. Our success depends on the participation of citizens and industry as well as government. This is especially true in the area of solid waste management.

Fifth, RCRA should encourage development of new, better, and more cost-effective technology in all areas of waste management, from source reduction to clean-up and



remediation. Because RCRA involves so many diverse industrial processes and waste streams, there are infinite opportunities for finding better, more efficient and less expensive methods of preventing waste generation and managing waste once it is created. By carefully avoiding legislation and regulation which may inhibit this creativity, we provide fertile ground for research and new ideas from which we all benefit.

Finally, and most important, we must be guided by a desire to protect human health and the environment, which is our ultimate goal. When faced with alternatives which are equally practical, cost effective, and safe, waste reduction and recycling are generally preferred solutions over treatment and disposal because of their positive contribution to resource conservation. We have to assure a safe environment for ourselves and our children.

At this time, I'd like to turn to the specific waste management programs envisioned by the Senate Bill. The bill focuses upon a comprehensive solid waste management scheme, covering toxics use and source reduction, waste management and recycling, and State and Federal relationships. Before addressing our comments on these specific provisions, I'd like to place in context the solid waste universe and environmental issues addressed by the Senate Bill.

As we start the national debate on Subtitle D solid waste management, we have the benefit of our last decade with Subtitle C and hazardous waste management. Under subtitle C in the early 1980's, hazardous waste handlers were regulated for the first time; basic technical requirements for hazardous waste treatment, storage, and disposal facilities were established; and States became authorized to administer the hazardous waste program.

1984 and the HSWA amendments ushered in a new era of rising expectations for this program. Many hazardous waste land disposal facilities and incinerators were permitted or closed, more wastes were brought under Subtitle C jurisdiction, more stringent requirements were placed on all hazardous waste handlers, and EPA and States established a strong national compliance program.

Today we have a major hazardous waste program requiring "cradle to grave" management. RCRA now is involved at all stages, in the prevention of future contamination and in the clean-up of past contamination—and at all stages in between.

The lessons we learned in implementing Subtitle C can be applied as we strive to improve Subtitle D. First, the Subtitle D universe, in terms of waste volume and number of facilities, is many times greater than Subtitle C, and we would expect the universe of Subtitle D waste would pose less risk than the Subtitle C waste universe. Solid waste, including special wastes, industrial solid waste, and municipal solid waste, is generated at the rate of approximately 13.2 billion tons a year, compared to Subtitle C managed hazardous waste at 240 million tons per year. Moreover, there are 72,200 manufacturing plants in the chemical, food, textiles, and leather products industries alone that handle industrial solid waste, plus tens of thousands of small services and commercial businesses. There are about 850,000 oil and gas wells and over one thousand mining sites. We expect about 3,000 municipal solid waste landfills to be operating in 1995. In contrast, there are only 15,400 large quantity hazardous waste generators and 4,600 hazardous waste treatment, storage and disposal facilities.

These numbers can easily be put into perspective. Despite its comparatively small scale, the costs of the subtitle C regime under RCRA has strained the ability of the regulators to implement and the regulated community to comply. A comparable regime for subtitle D of RCRA is infeasible, unworkable, and unnecessary.

One of the primary goals of the RCRA program is to prevent contamination of the nation's groundwater. Unlike many other environmental problems we face today, many solid and hazardous waste handling practices are not causing a direct exposure problem today. Rather, our goal frequently is to prevent practices today that may cause problems tomorrow.

We intend to ensure that RCRA program implementation is consistent with the principles enunciated in EPA's Ground-Water Protection Strategy for the 1990's. This Strategy was released this May and strongly emphasizes both rational prevention of ground water contamination as well as the importance of a Federal/State partnership.

Fulfilling this goal under a subtitle D program is a complex undertaking. Depending upon the approach used we could devise an efficient national system that effectively reconciles our goal of fully protecting our environment with our desire for a healthy national economy; or we could adopt a system that will yield little benefit while having significant economic impact. Consider the following:

As noted in the Agency's recent report "Environmental Investments: The Cost of a Clean Environment", November, 1990, the RCRA program today costs society at

least \$32 billion per year. By the year 2000 we estimate that these costs will rise to at least \$42 billion per year. Of this, management of municipal solid waste alone costs \$17 billion annually today. Moreover, the program for leaking underground storage tanks costs at least \$4 billion annually. As these figures dramatically illustrate, the potential economic impact of a major new Federal legislative initiative in RCRA for the huge Subtitle D universe could be extraordinary, and would be unlikely to result in substantial benefits except in a limited number of cases. This underscores our need to fully explore the most cost-effective means to achieve our mutual goals, and continue to make cost an explicit consideration in the debate.

S. 976 addresses all aspects of waste managed—source reduction, recycling, and waste disposal. Citizens today expect industrial pollution to be abated and increasingly are taking personal responsibility for their own contributions to environmental problems. We see this most visibly in the popularity of many municipal solid waste recycling programs and consumers' desire to be better informed about products they buy. EPA shares these expectations. A strong national program to control hazards from waste management and foster cost-effective resource conservation is already an essential element of our country's environmental protection program. I believe EPA, States and localities, along with citizens and industry, have already made great progress in setting such a program in place. The Senate Bill in many ways reflects these in-place and emerging programs. However, I believe that many of the approaches taken in the Senate Bill are not the most efficient means to achieve our national goals. As I will highlight below, many of the means used in the bill do not provide for targeting significant risks, and establish "command and control" approaches that are in some cases technically infeasible, inefficient, or administratively unworkable. Our nation's resources for environmental protection are too scarce to waste on attempting the unnecessary and impossible. Rather, we must work together to make choices on priorities and develop workable solutions to address them. I will offer several of these solutions to you as I address the specific provisions of your legislation.

With this background, I would like to discuss several specific issues addressed by the Senate Bill. I will first discuss the critical issues surrounding municipal solid waste and finally several other areas not addressed by the Senate Bill that I believe are significant to the RCRA program.

#### MUNICIPAL SOLID WASTE

Perhaps no environmental issue we face today is of more concern to the American public than municipal solid waste. As a nation we generate about 180 million tons of solid waste each year; by the year 2000 we would generate 216 million tons per year if we continued business as usual. We are confronting how to handle this amount of cans, bottles, leaves, old furniture, food waste and newspapers. Thus at least 40 States now have recycling laws and local recycling programs number in the thousands. We must make sure waste is handled safely and effectively through integrated solid waste management systems.

Unfortunately, today many areas of our country face a crisis in their ability to manage their garbage. The siting of new replacement landfills is an extremely expensive and time consuming process. Local opposition to new landfill siting has led to a process that consumes six or more years, or in some cases results in a stalemate. This situation contributed directly to the movement of municipal solid waste to remote landfills, which often are in distant States. The resultant interstate shipping of waste now serves to further compound siting problems, influence local opposition, and increase solid waste disposal costs.

These problems call for solutions that must be implemented by us all. Everyone has a role. State and local governments, business and industry and individuals all must contribute to the resolution of this problem. Clearly, cost-effective recycling is an essential part of any solution. As you may know, the administration is actively pursuing a goal of reducing solid waste by 25 percent by 1992 through source reduction and recycling. However, even with maximum recycling, we will continue, for the foreseeable future, to need incinerators and landfills to manage the remaining unrecycled materials.

From EPA's perspective, we believe that many citizens will not accept new disposal facilities in their communities unless they are assured of two things. First, only the disposal capacity that is needed should be sited. This means that materials would be diverted from the wastestream through source reduction and recycling. Second, landfills or combustors that are sited must be designed and operated safely.

EPA believes this balance can be effectively achieved through market-based incentives, with existing regulatory authorities governing waste management facili-

ties, and non-regulatory initiatives, such as our 25 percent goal. We believe the approach taken in the Senate bill to respond to these issues is overly prescriptive.

Source reduction and recycling have captured the public's imagination. Citizens have shown, in all parts of the country, a strong willingness to recycle their own wastes. The number of curbside collection programs has nearly tripled over the past three years. Today, over 2700 communities have such programs.

The Federal Government also is taking steps to improve these market forces. Federal procurement guidelines that give preference to the purchase of materials made from recycled materials are making a difference. Industry is responding to government purchasing preferences by increasing investment in new mills and processes to turn discarded materials into new products.

EPA, in concert with the FTC and Office of Consumer Affairs, is working to harness this public interest by developing consistent national definitions for use in the marketing of consumer goods. For example, we are preparing to issue a notice requesting comment on the use of the terms "recycled" and "recyclable." Building consumer confidence so that they can rely on environmentally oriented marketing claims will serve to further develop markets for recycled goods.

Many of the problems and concerns that I have touched on today regarding municipal solid waste have one thing in common. The solutions to these problems start with getting the price right for solid waste disposal.

Solid waste management is not free. In fact, all of us do pay something for solid waste services. However, the fee we pay may capture only a fraction of the direct costs of collection and disposal and the indirect health, environmental and aesthetic effects of disposal activities. So the first thing for local and municipal government to do is to make certain that the price charged for waste services reflects the direct and indirect costs, including the opportunity cost of land used, closure and postclosure costs, and other relevant costs.

In addition, the costs that we do pay often are typically hidden—in our property taxes, our sewer bills. Even when the solid waste charges are explicit, they rarely change with the number of garbage cans we take out to the curb. It is just common sense, as well as good economic sense, that those responsible for solid waste management costs pay the costs these activities impose on society. So another step that local and municipal government can and should take is to investigate variable rate pricing. Variable rate pricing means that the price charged for waste services changes with the weight or volume that each household produces—like gas and electricity pricing. Although each community's experience is unique, the administrative costs of implementing variable rate pricing are typically low—2-3 percent of a city's solid waste management operating budget—and the net benefits can be numerous:

- As consumers get the correct price signals for each incremental unit of garbage they produce, they will have incentives to minimize waste, while recycling becomes a more economically viable choice.

- Variable rate pricing influences rather than dictates consumer behavior and gives consumers some control over the amount they pay for waste disposal.

- Variable rate pricing can educate all consumers by giving them the information and incentive they need to make more informed decisions about product purchases, waste minimization, and recycling.

- Finally, variable rate pricing can be implemented in a variety of local jurisdictions with features geared to local circumstances. Almost 200 communities in 19 States have already adopted or are considering adoption of some form of variable rate pricing, often in conjunction with recycling programs.

The city of Seattle, Washington, has one of the best known variable rate pricing programs. With the institution of variable rates, the rate of recycling of the city's garbage increased substantially; with the subsequent addition of curbside collection of recyclables, recycling increased further. At the same time per household generation of waste dropped dramatically.

Full cost and variable rate pricing mechanisms send the appropriate market signals to households and go a long way toward encouraging cost-effective waste minimization and recycling. We believe that State and local community use of market-based approaches such as variable rate pricing, should be pursued aggressively—as the first step taken by any community seeking to find better solid waste management solutions. State solid waste management plans and local planning should consider incorporating such approaches where possible.

Another difficult issue related to municipal waste is interstate waste transport. Any debate on interstate waste transport should consider the need for agreements between States to avoid uneven distribution of capacity and siting of unnecessary facilities. Traditionally, municipal solid waste has been managed close to home. The

existing national market in solid waste will continue to be necessary in the short run for effective management of solid waste, while States implement integrated waste management plans. There is also a need for a national market for specialized treatment and disposal of hazardous waste. Therefore, we should not create any authorities that operate as a ban on interstate transport of either solid or hazardous waste, thereby inhibiting or restricting development and use of the most appropriate technology for waste treatment or recycling.

Moving beyond the interstate issue, it still is essential that landfilling be accomplished in an environmentally sound manner. Properly sited and operated landfills will increase public confidence. This alone will serve to reduce the incentive to ship waste long distances to remote sites. This, in turn, addresses the "fairness" issue raised by interstate shipments of waste. That is communities that made the difficult siting decisions will not become the repositories for the waste of communities who did not make this often politically difficult decision. Finally, the recently announced landfill rules establish national performance standards; they will ensure that there is little economic advantage to shipping wastes long distances to avoid the costs of environmental protection.

#### INDUSTRIAL SOLID WASTES AND STATE PLANNING

I will now address the specific provisions of the Senate Bill that apply to industrial solid waste.

##### *Toxics Use and Source Reduction*

EPA supports and is committed to the goal of pollution prevention. Reduction of wastes and other constituents at their source can often be the most reliable and economically efficient means of controlling pollution. EPA has already made pollution prevention an integral element of its programs. I do not believe EPA needs to have the capability to review industry's toxic use plans as suggested by S. 976. There are too many business variables, beyond environmental factors, affecting the use of a particular material. I do believe, however, we can influence business decisions. For example, we have begun a voluntary program called the 33/50 Industrial Toxics Project. In this project EPA has targeted seventeen chemicals from the Toxics Release Inventory (TRI) and has asked industry to voluntarily reduce releases of these chemicals from their 1988 levels by 33 percent by 1992 and 50 percent by 1995. The response has been great. Over 250 major manufacturing companies (most representing multiple facilities) have voluntarily committed to participate in this project. Many of these commitments include the use of pollution prevention as part of their release reduction strategy. It is this sort of program that allows industries to press prevention innovation to the edge. We are only beginning to understand the vast potential here, and should not impose any barriers to such innovation.

For the most part, we do not believe that the proposed Senate Bill scheme is the appropriate means of accomplishing our mutual goals. The Pollution Prevention Act (PPA) was enacted in November 1990. With it, and with EPA's jurisdiction under RCRA and the Toxic Substances Control Act (TSCA), we now have all the tools necessary to gather data and encourage greater industrial source reduction and to transfer that knowledge to others. The bill's requirements for development of national waste minimization performance standards for major industries is an inappropriate means to encourage source reduction. Such standards could seriously inhibit industrial innovation, and may not be costeffective. The proposed legislation also imposes unnecessary and technically infeasible requirements upon EPA, the States, and industry, with an unreasonably short amount of time provided to develop and implement these programs. Again, we believe the recently enacted PPA, along with EPA's, States' and industry's aggressive efforts today are sufficient to achieve greater source reduction.

##### *Industrial Solid Waste*

S. 976 also includes provisions specifically directed toward solid waste from industrial sources. The industrial solid waste universe includes special wastes (oil and gas, mining, and cement kiln wastes) and all other industrial solid wastes not otherwise defined as hazardous. EPA has thoroughly studied these three special waste categories and is now working with States, industry and environmental interests to develop national Federal/State programs. We believe any national regulatory scheme for special wastes should be administered largely through State-run programs.

For other Industrial D wastes, those other than oil and gas, mining, and cement kiln wastes, I believe it is essential to better characterize these wastes to ascertain the risks, if any, posed by them. There are 72,200 facilities that generate these

wastes and over 7.6 billion tons produced per year. The risks are expected to be very diverse, and would be unlikely to result in substantial benefits except in a limited number of cases. Before we embark on a new Federal program of the magnitude in the Senate bill, we should determine which facilities are posing significant risks and what the magnitude of the costs to government and industry would be to address them. Based upon this determination, we can prioritize the necessary targets, tailor the requirements to the risk, and determine appropriate responses.

At this time we do not have sufficient information available to make any of these determinations for these general industries! D wastes. Any legislation should provide us the opportunity to determine these wastes' effect on human health and the environment, and the costs of addressing them before undertaking any regulatory action.

#### REGIONAL AND STATE SOLID WASTE PLANNING

The next major area addressed by S. 976 is regional and State planning for solid waste. EPA supports and has aggressively pursued planning for State and local solid waste programs. By its very nature, however, planning is a dynamic endeavor which improves over time as one stage after another is developed and implemented. Any planning regime should recognize this principle and allow the flexibility and time necessary for the natural evolution of the planning process.

Comprehensive State planning for industrial and municipal solid waste will be a complex task requiring States to gather extensive data on waste generation and future capacity needs. EPA has a role in assisting States in such planning but should not be placed in position of "second guessing" States' waste management decisions.

#### HAZARDOUS WASTE AND SECONDARY MATERIALS RECYCLING

The most technically difficult area of any legislation affecting RCRA is the definition of solid waste; this proposal is no exception. The definition of solid waste is a complex, technically difficult area of RCRA; it involves addressing thousands of diverse industrial processes and waste streams, each with its particular set of issues and risks. Because of this complexity, these issues are best resolved on a case by case basis. This cannot be done by prescriptive statute. EPA needs legislative flexibility to tailor the requirements for recyclers based on the industrial situation, the actual risk posed by the management practice, and the costs of the available management options for a given waste stream. A statute, no matter how well-crafted, cannot do more than establish the framework for this program.

EPA is acutely aware of the issues that arise out of the current regulatory scheme which was necessarily based upon the statutory concept of "discard." Recent case law, however, has somewhat clarified our jurisdiction, but did not solve all the issues we face. States, industry, environmental groups, and our own RCRA Implementation Study, recommended that changes in the definition be made. In response EPA is drafting a notice of proposed regulatory amendments to the Subtitle C definition of solid waste which address many of the same concerns addressed in S. 976.

Another feature of the hazardous waste/hazardous secondary materials recycling provisions in the proposed legislation is a permit-by-rule scheme. Generally, EPA favors expanded use of permit-by-rule because it streamlines the regulatory process in lower risk situations and allows the Agency flexibility and discretion in highly technical areas. The criteria for permitting a class under the bill's provisions, however, could rarely be met.

Although, presumably, the intent of the proposed legislation is to clarify jurisdiction while making some requirements less stringent to encourage recycling, we believe its actual effect is a far more stringent RCRA regulatory regime, which may have the reverse effect on recycling—rather than encouraging it, it could suppress it. There are many alternative schemes for permit-by-rule which would be more practicable than the proposed one.

#### UNDERGROUND STORAGE TANK REMOVAL

S. 976 and a proposed amendment to the Internal Revenue Code would use funds from the leaking Underground Storage Tank (UST) Trust Fund to guarantee loans and grants for UST removal and replacement. EPA opposes this use of the funds because they are intended for corrective action in situations where there has been a release from a leaking underground tank. The cost of removing all privately owned USTs far exceeds the amount of the trust fund and would deplete the fund while only addressing a very small percentage of the contamination problem.

## REGULATORY REVIEW

I would also like to comment on section 105 of S. 976, which would amend RCRA Subtitle G. This section would impose certain constraints on the president's capacity to oversee regulations which would be necessary to implement the provisions of this bill. I have serious reservations about the wisdom of these provisions, which hamper a deliberative process that we find useful and support. They would require the Executive Office of the President to maintain a "public file" of all written materials received by the Office, regardless of whether these communications were deliberative or predecisional. The Administration has consistently indicated that it believes provisions such as these would raise serious Constitutional concerns. As a result, if such provisions were to remain in any final bill, the president's senior advisors would recommend a veto.

## OTHER ISSUES

As the Reauthorization debate continues, I believe there are a few issues not addressed by the bill which should be considered. We would like to further define and address these issues.

One of the important issues is the role of cost. EPA believes the Agency should be explicitly allowed to consider cost when developing regulations. This includes regulations under Subtitle C relating to corrective action, which represent a significant cost to industry, and regulations under the subtitle D regulatory program. Consideration of cost under RCRA corrective action would facilitate integration of RCRA and CERCLA cleanup requirements. As you know, the current statute does not expressly allow for consideration of this factor as do most other environmental laws. We believe RCRA should also expressly allow economic considerations in devising protective regulations.

Another issue involves clean-up wastes and contaminated media. RCRA corrective action and closures, State clean-ups, CERCLA actions and voluntary clean-ups often involve one-time management of large quantities of wastes. Under RCRA, management of these wastes may trigger obligations to comply with RCRA procedural and substantive requirements. For example, RCRA permits may be required for voluntary clean-ups or State clean-ups. Obviously, this could seriously delay cleanups.

In addition, RCRA substantive standards are designed primarily for wastes generated from ongoing industrial processes. For example, requirements for pre-treatment of all clean-up wastes may foreclose other cost-effective yet protective clean-up options. Yet such requirements for pretreatment for newly generated industrial wastes act as a powerful incentive for waste minimization.

Superfund clean-ups are statutorily exempt from procedural (such as permitting) requirements under other environmental laws, including air, water, and waste laws. Clean-ups conducted under authorities other than super fund, however, are not similarly exempt, often causing substantial delays and additional expense. In addition, mobile treatment units also often trigger full permitting requirements which diminish much of the cost savings and efficiency of using these type units in clean-ups. Finally, the interface between RCRA and CERCLA based cleanups should be clarified to eliminate some of the barriers to timely and effective cleanups. This issue has been a particular problem for Federal agencies. We would like to explore alternatives which encourage clean-up, while still protecting human health and the environment.

Another important issue which needs to be addressed in the current debate is the Basel Convention on Transboundary Movement of Hazardous Waste. Although some feel this issue should be included in a comprehensive RCRA reauthorization, I believe it is essential to have legislation in place sooner than any RCRA legislation could be finalized. EPA supports the pending Administration bill addressing exports; we believe that this bill is necessary to ensure protection of the environment and avoid significant trade disruption which is likely to occur if the issue is not addressed before the rest of RCRA reauthorization. Thirteen other countries have ratified this important agreement and the Convention will soon enter into force. The U.S. should not be seen as a laggard in this key area. Moreover, without ratification, the U.S. will not be able to be a party to implementing guideline development and U.S. trade interests will not be protected.

Finally, the administration has raised the issue of several amendments to S. 596, the Federal facilities legislation that this Committee is considering, relating to mixed waste, military ships and ordnance, federally owned treatment works and employee liability. I mention these because they would amend RCRA and we believe they are necessary to assure fair treatment of Federal facilities. I believe it is essential to have these issues resolved as soon as possible in S. 596, and would like

to encourage you to adopt the administration amendments. In addition, other RCRA issues were identified during testimony on S. 596 that we believe should be addressed in RCRA reauthorization.

#### CLOSING

In closing, I would like to reemphasize the great strides the Agency and States have made in the RCRA program in the past decade, especially in the hazardous waste area. We are working to make equally great strides in subtitle D and to continue to improve Subtitle C. Many tasks that EPA, States and localities have undertaken as a result of the last statutory amendments, however, are still pending and still evolving. Any legislation should recognize these ongoing projects and their environmental significance and the need for a sufficient period of time for their completion without undue change and costly disruption.

Accordingly, I would once again reiterate the need to carefully consider the nature of any new Federal legislation to assure it is addressing known problems and doing so by the most efficient means.

This concludes my prepared remarks. At this time we will be pleased to respond to any questions from the subcommittee.

#### STATEMENT OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES

The Pennsylvania Department of Environmental Resources' position statement concerning the interstate transport of municipal waste emphasizes two basic points. First, Pennsylvania is a large net importer of municipal waste, not because we have substandard facilities, but rather because we have sited state-of-the-art landfills and incinerators. States can and have, as Pennsylvania has shown, become recipients of significant amounts of out-of-state waste because they have the political will to allow the siting of environmentally sound facilities. Second, we agree that waste exports should be phased out over time in an orderly manner. This statement offers specific recommendations on how to address the critical issue of interstate waste transport as part of the upcoming reauthorization of the Resource Conservation and Recovery Act (RCRA).

#### PENNSYLVANIA'S EXPERIENCE

Pennsylvania's municipal waste program has become one of the most progressive and aggressive in the nation. In 1988, we promulgated municipal waste regulations that meet or exceed EPA's proposed regulations by requiring double liners, enhanced groundwater monitoring, leachate treatment, and bonds that cover actual closure costs. Three years later, virtually all of the State's 43 municipal waste landfills are operating with the new design.

In addition, over 470 communities with more than 6 million people are implementing curbside recycling programs, under a 1988 statute. Another 150 communities will begin recycling later this year, as the second phase of the program is implemented. Under this statute, each of Pennsylvania's 67 counties have drafted a plan providing for their municipal waste management needs for the next 10 years.

The 1988 regulations and statute were not required by Federal law, but we recognize our actions to be consistent with the Resource Conservation and Recovery Act (RCRA) Subtitle D's basic premise that municipal waste management is a State responsibility.

Despite these new efforts, or perhaps because of them, Pennsylvania is the largest net importer of municipal waste in the country. Imports of waste skyrocketed to 3.5 million tons per year and remain at this level. Our new regulations are clearly stated, setting out separate application and operating requirements, imposing permit review times on our agency, and requiring state-of-the-art design for environmental protection. We wrote the regulations that way to provide a stable and predictable regulatory climate, and the regulations unquestionably removed Pennsylvania's waste capacity shortfall. But as an unexpected result, the neighboring States of New Jersey and New York, and local officials in those States, who were apparently unwilling or unable to assume the same responsibility, allowed Pennsylvania facilities to become a large part of their "solution."

A dramatic increase in longhaul trash truck traffic also occurred, not only for the additional 3.5 million tons for Pennsylvania's landfills, but also, due to Pennsylvania's location, for additional trucks travelling through to points west and south. These trucks were frequently overweight and unsafe.

We responded in two ways. First, Governor Casey initiated a program, Operation Trashnet, which set up checkpoints at State borders, landfills and other locations,

stopped trash trucks, and had them inspected for compliance with environmental and safety laws. Thousands of violations of safety and environmental laws were uncovered and corrected.

Second, the Governor issued an Executive Order in late 1989 that was intended to stabilize the amount of waste accepted for disposal in Pennsylvania at the then-current level of 70 percent Pennsylvania waste and 30 percent out-of-state waste. We sought not to ban out-of-state waste, but rather to limit out-of-state waste based on a "fair share" concept. The Executive Order effectively froze the amount of waste being imported into Pennsylvania at 1989 levels, allowing the State, as well as local governments, to plan for our need without having these plans superseded by massive new amounts of out-of-state waste. However, the Executive Order is being legally challenged.

In 1990, about 13.9 million tons of waste went to Pennsylvania municipal waste landfills or incinerators. This volume was 9.0 to 9.5 million tons of Pennsylvania municipal waste, 3.5 million tons of out-of-state municipal waste, and 0.8 million tons of nonhazardous industrial waste (or residual waste). Two years ago, 0.5 to 1.0 million tons of Pennsylvania municipal waste were being exported. Today, very little waste is being exported because we have discouraged waste exports in our county planning process. We have, in a very short period of time, brought much of that waste back to Pennsylvania, in an effort to handle our waste disposal problems within our boundaries. Only three of our 67 counties will send some waste out-of-state, and they are along the Ohio/West Virginia border. Based on our investigations, much of the waste that is purported to have come from Pennsylvania to other States for disposal is actually New Jersey waste coming through Philadelphia area transfer facilities.

We are finding, in sum, that our ability to manage our own municipal waste in a planned and credible manner—the very responsibility that States have historically held, and which Subtitle D confirms—is being undermined by out-of-state waste. It often seems we face a Hobson's choice between running a municipal waste program with permitting requirements so difficult to meet that we face a capacity shortage again, or allowing unlimited imports from everywhere.

While we do not believe that the Supreme Court's 1978 decision in *Philadelphia v. New Jersey* creates an insurmountable obstacle to reasonable limitations on out-of-state waste, it has made it so difficult that Congressional intervention is appropriate. Clear Congressional authorization for States to impose certain limits or other sanctions on egregious exporters of waste would simplify and assist municipal waste management, end lengthy litigation, force certain States and localities to take their own responsibilities more seriously, and enable the States to concentrate on other tasks. What we seek, in short, is not for Congress to tip the balance in an inter-state dispute, but rather the creation of a climate which will allow us to continue developing a meaningful State program to address our disposal needs with sound facilities.

#### THE PROBLEM OF INTERSTATE WASTE

Subtitle D of RCRA generally requires each State to plan for, and manage its own municipal waste. The transportation of large volumes of waste generated in one State to another State for disposal or incineration undermines that requirement for both the host and generating States.

It is certainly possible for a State to develop a municipal waste management program based on recycling and environmentally protective facilities, using its own population and waste generation rates as a base. It is extremely difficult to develop or implement such a program when large, unlimited, and fluctuating amounts of out-of-state waste are being disposed or incinerated in our State.

Large volumes of out-of-state waste:

- Threaten to engulf Pennsylvania's comprehensive recycling and waste minimization efforts. We have already spent more than \$50 million in State funds to support these efforts. Recognizing that landfills pose long-term potential risks to groundwater and future productive use of land, the Commonwealth has imposed stringent and costly design and operational controls on landfilling and implemented one of the most ambitious recycling programs in the nation. These efforts will dramatically reduce the volume of waste generated—and therefore disposed of—in Pennsylvania. These efforts will be for naught, however, if Pennsylvania is powerless to control a swelling tide of waste imports.

- Undermine or weaken our State and county planning process because they make uncertain the amount of waste and number of sites that must be planned for. In one case, a landfill with 10 years of life, which the host county depended on for its long term plan, was filled in less than two years by out-of-state waste. The



county was forced to export its waste to a landfill in another county, which in turn was filled faster than planned, and so on. The cascading effect of such events is incredibly disruptive.

- Divert very large amounts of staff and management time away from other solid waste issues. Time spent on out-of-state waste is time not spent on recycling, landfill design, or enforcement.

- Force our staff to review permit applications for facilities that are not intended for the use of Pennsylvania residents. At a time of budget constraints, it is painful to hire permit reviewers and inspectors for the 5 or 10 landfills in Pennsylvania that owe their existence to out-of-state waste. One of our largest landfills takes 95 percent of its waste from other States.

- Encourage a proliferation of unsafe and overweight trash trucks on our highways. Four people died on Pennsylvania highways in 1990 from long haul trash trucks, three of those from brake failure.

Waste exports also undermine municipal waste programs in the generating States. Those States have little or no control over the costs of out-of-state facilities that are used, their environmental integrity, or their long term availability. Notwithstanding these problems, some officials apparently believe the risks are worth taking. The New York State Plan calls for increased reliance on exports. In at least one case, a local official from New Jersey who was running for re-election claimed he had solved the county's trash problem by sending waste to Pennsylvania. The easier it is to export waste, the harder it is for some States to take their responsibilities seriously.

#### PENNSYLVANIA'S RECOMMENDATIONS

##### *1. Congress should authorize States to freeze net waste imports from the State of origin at current levels.*

Each State should be required to attain self sufficiency in its management of municipal waste, and this should clearly be a goal of RCRA reauthorization. As an interim measure, Congress should clearly and unconditionally authorize each State to freeze the net importation of municipal waste for disposal or processing at the amounts received by that State in calendar year 1990. States should have the ability to achieve that result in a manner they see fit. Some States, for example, might choose to create wastesheds, and limit waste being disposed of or processed in those wastesheds based on 1990 waste receipts. Other States might prohibit the importation of waste based on contracts signed after a date certain, so long as that date will discourage companies from signing contracts simply to increase the baseline. This right should not be tied to any approval or authorization from EPA, to any planning requirements, to the nature of the facilities in the importing State, or to anything else. Our interest in this interim period is to cap waste imports, not to ban them.

RCRA reauthorization should not allow, directly or indirectly, States that are net importers of municipal waste to be in a worse position than they were in 1990. Nothing is served by requiring States with advanced programs, like Pennsylvania, to await plan development and EPA approval for those programs. Nor is anything served by requiring States with substandard facilities to suffer increasing imports as they try to develop a plan that is being undermined by those imports. Moreover, the immediate and unconditional right to impose some limits will encourage the most egregious exporting States to immediately begin managing their own waste more responsibly.

We have no interest in abrogating pre-existing waste contracts across the board, but based on our experience, these contracts are often written for unspecified volumes or for volumes that far exceed normal in-state trash generation. Also, some contracts have no performance requirements, are not tied to waste generated in specific communities, and are often between separate subdivisions or subsidiaries of the same company. Therefore, the States should have the right to abrogate such contracts to the extent that contracts would result in imports that exceed pre-existing waste import levels.

As a related measure, Congress should directly and categorically prohibit States that were net exporters of municipal waste in 1990 from exporting larger amounts of waste in any subsequent year. This provision would reinforce the authority of individual States to impose limits on the amount of waste imported from other States.

A freeze on waste exports, coupled with State authority to enforce the freeze, would enable the planning process to work much more effectively. We support a ten year planning requirement, but one that would not require the States to spend a great deal of effort and money to develop information that will not contribute meaningfully to program development or effectiveness.

*2. Congress should give States the unconditional and immediate right to charge differential fees for out-of-state waste.*

Congress, through RCRA reauthorization, should authorize States to immediately and unconditionally charge differential fees for out-of-state waste. Out-of-state waste involves additional costs to the receiving State, including wear and tear on roads and highways, program administration costs, and the environmental risks or damage associated with waste disposal or incineration. These costs should be compensated. A fee would also act as a disincentive to movement of waste out of State.

We suggest the following. First, fees should be high enough to effectively deter out-of-state municipalities that are willing to pay more than \$75/ton to send their waste to Pennsylvania because the cost of disposing that waste at an environmentally comparable facility in the generating State could approach \$130/ton. The ceiling for immediate fee surcharges should be \$10/ton or four times the base State surcharge, whichever is greater. An initial fee of that size would begin to influence behavior in the large net exporting States.

Second, the fee should increase automatically each year. A significant and definite fee increase would send a clear signal each year to generating States that they must make greater efforts to manage their own waste. Allowing fees to increase annually based on the Consumer Price Index will prevent inflation from effectively reducing the fee, but it does not raise the fee. Raising the ceiling by \$10/ton per year would accomplish that goal.

Third, the ability of States to raise fees in subsequent years should not be conditioned on compliance with a plan, as is often proposed by Congress. Tying interstate waste limits to the planning process creates numerous problems. Most basically, States that are significant waste exporters will be tempted to shirk their responsibilities because there is no certainty that fees will go up after a time certain. If EPA is required to approve or disapprove State plans under the RCRA reauthorization, the large exporting States will be tempted to put pressure on EPA not to approve plans for States to which they export waste. In our experience, rules based on plans do not work nearly as well—if they work at all—as rules that simply and clearly authorize or prohibit certain behavior.

Fourth, after five years of the initial fee and subsequent yearly increases, States should be authorized to charge differential fees without any limit as to amount. That would effectively require the large exporting States to manage their own waste by the end of that period. An immediate ban on out-of-state waste would be disruptive and inappropriate, but our proposed fee system would encourage self sufficiency by the large exporting States in a more orderly way. We would have no objections to authorizing States to enter into agreements under which the fees would be modified or waived, as a way, for example, of recognizing wastesheds.

We note with concern proposals we have heard that some States be given ten or more years to reduce their exports. Given the dramatic turn-around Pennsylvania has achieved in three years on waste capacity—namely moving from less than 2 years capacity to greater than 10 years, and our ability to “recapture” waste which we have been exporting out of State—there is no reason whatsoever to allow other States more than five years to make significant progress in redirecting their exports.

Fifth, we are concerned by proposals that would authorize States to charge larger differential fees for noncontiguous States while providing for low fee ceilings for contiguous States. The two biggest waste exporters to Pennsylvania are New York and New Jersey, which are contiguous to our borders. Rather than charge larger fees to noncontiguous States, if the fee ceilings for contiguous States were raised as we have suggested, our concern would be resolved.

Finally, Congress should authorize States to establish additional regulatory mechanisms that will reduce net waste imports over the five year period; this would be a useful supplement to fees. The statutory language should be broad enough to include the following authority for States:

- To prohibit export of municipal waste from the State, which would make disposal capacity available in the importing State.
- In issuing a permit for a new facility, to limit waste received at the facility to waste generated within a particular area.
- To prohibit the renewal of pre-existing contracts for the importation of waste, as a way of lowering imports over time.

*3. Congress should consider directly imposing certain minimum rules on municipal waste management facilities.*

a. *Open dumps.* There are more direct and effective ways to force the closure of open dumps in those States that still have such dumps, and to develop new environ-

mentally protective capacity, than tying it to the planning process as we have seen proposed by Congress.

One effective method would be to prohibit open dumps from receiving out-of-state waste by a specified date, but allowing an additional year in special cases. Any limitation on the remaining life in years of an open dump would need to be accompanied by a prohibition against receiving more waste on a daily basis than it did in 1990. In our experience, limiting the lifetime of a landfill almost always results in an attempt by the landfill operator to fill it up at once. If Congress is concerned that it may be inappropriate to apply these rules to small open dumps in rural areas, it could exempt facilities that receive less than 30,000 cubic yards of municipal waste per year. Civil and criminal penalties could also be extended to persons that operate open dumps by a date certain regardless of the origin of the waste. Finally, it would help a great deal if Congress could force the promulgation of the long-awaited Subtitle D municipal waste regulations.

We are not at all certain that the planning process, by itself, will result in the development of needed capacity. Carefully placed substantive rules, coupled with the planning process, are more likely to achieve that result. For example, authorizing States to freeze net imports at 1990 levels, authorizing significant and increasing fees on waste imports, and requiring the phase-out of open dumps in the manner described above, will spur States to provide for needed and environmentally protective facilities. We want to encourage Congress to think about how direct and clear substantive rules could make the planning process more effective, and to decouple planning from State authority to limit interstate waste.

b. *Record keeping.* Congress should require operators of landfills and resource recovery facilities to keep records of daily waste receipts based on county and State of origin, and should require operators to submit those records to State regulatory authorities on a quarterly basis. The larger facilities—those that receive 30,000 or more cubic yards of waste in a calendar year—should also be required to accurately weigh all solid waste when it is received.

This would create a good data base from which to measure imports/exports overall, and would be informative to nearby citizens and others. We already have these requirements in place in Pennsylvania, and they have proven to be extremely helpful in understanding interstate waste movement.

#### CONCLUSION

Congress has an opportunity, during the reauthorization of RCRA, to affirmatively empower the States to protect the environment. Unlike the recent Clean Air Act reauthorization, which addressed a program in which there has been a strong Federal presence for more than two decades, the reauthorization of RCRA Subtitle D takes Congress into an area in which State and local governments have been operating virtually alone. States such as Pennsylvania, and its many local governments, have developed effective and innovative municipal waste programs. Congress should help the States to make even more progress in developing their programs, and avoid establishing requirements that will inhibit the States or foster Federal micromanagement of State programs.

The recommendations we have made are consistent with that view. In summary, we believe that Congress should:

- Freeze waste imports from the State of origin at current levels.
- Allow States to impose progressively higher fees on waste imports to encourage reductions.
- Allow States, after five years, to impose bans on waste imports by setting unrestricted differential fees.
- Require minimum standards for municipal waste management facilities.
- Protect the ability of States to make meaningful plans for at least 10 years worth of disposal capacity.
- Require facility operators to collect and maintain data on waste disposal at their facility.

#### STATEMENT OF THE CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION

The Chemical Specialties Manufacturers Association (CSMA) is pleased to submit testimony to the committee on Environment and Public Works on the reauthorization of the Resource Conservation and Recovery Act and S. 976.

CSMA has a membership of more than 400 firms engaged in the manufacture, formulation, distribution, and sale of detergents and cleaning compounds, waxes, polishes and floor finishes, disinfectants and sanitizers, personal care products, auto-

motive specialty products, and non-agricultural pesticides for home, lawn and garden use.

The statement submitted today will summarize some of the Associations positions and activities relating to solid waste management, as well as specifically address Section 203 (Products and Packaging Advisory Board) and Section 204 (Hazardous Constituents in Products) of S. 976. We will also comment upon proposals which the committee may consider to regulate environmental marketing claims and labeling.

#### GENERAL VIEWS

CSMA and the consumer products industry we represent believe the Resource Conservation and Recovery Act is an important statute, and we support the committee's effort to amend and reauthorize RCRA to address the solid waste challenges facing communities across the country as landfill capacity diminishes.

Our industry supports integrated waste management which includes as key components reduction, reuse and recycling. We accept the premise that products should be formulated and packaged to the maximum extent feasible and as technology permits to comply with solid waste reduction goals and to facilitate recycling programs. Many CSMA member companies have initiated ambitious programs to reduce unnecessary waste, to reuse and recycle materials, and to ensure the environmental compatibility of packages and products.

Another significant part of industry's effort is consumer education. For several years CSMA and its members have provided consumers with accurate information on proper use and disposal of household products through the "Household Products Disposal Council." The HPDC functions as an information service on the proper disposal of household consumer products as well as other household materials, including those that may pose disposal problems. The Council provides brochures and leaflets which include "Disposal Do's and Don'ts", and maintains a toll-free number through which consumers can obtain information.

In recognition of the need to educate consumers about recycling, the HPDC has recently been rechartered as the Household Products Recycling and Disposal Council (HPRDC). All the Council's materials noted above are currently being augmented to encourage consumers take the maximum advantage of recycling in communities where it is available.

#### SECTION 203—"PRODUCTS AND PACKAGING ADVISORY BOARD"

CSMA believes that voluntary programs—like the recycling and source reduction efforts of our member companies and the Household Products Recycling and Disposal Council—have and will play an important role in the management of solid waste. Such voluntary programs have built-in advantages: they are flexible, they can meet specific needs, and most importantly, they can accommodate new technology. A voluntary program also allows a manufacturer to properly consider other important factors besides a product's effect on the waste stream such as the purpose of the product and the needs of consumers. A product's packaging, for example, must assure that it is safely transportable in commerce.

We thus support the concept in Section 203 of a "Products and Packaging Advisory Board" which will recommend a voluntary program to help minimize packaging and maximize recycling.

We do offer, however, these specific suggestions to improve and clarify Section 204.

First, the list of industries to be represented on the Board should be amended to include the "steel" industry. Thousands of products in the food and consumer products industry are packaged in steel cans. The steel industry utilizes substantial amounts of recycled steel in making products, and the Steel Can Recycling Institute is working nationwide to promote and sustain recycling of steel cans. A representative of the steel industry, we believe, would bring needed experience and expertise to the Products and Packaging Advisory Board.

Second, on page 29, line 25 and page 31, line 13 the phrase "assure that human health and the environment will not be affected adversely" should be changed to "minimize adverse effects on the environment" to be consistent with the other enumerated goals of the Board.

Third, on page 30, lines 4 and 5, we suggest the inclusion of "technological feasibility" along with "cost, convenience, and safety" as relevant criteria for the Board to consider.

## SECTION 204—"HAZARDOUS CONSTITUENTS IN PRODUCTS"

CSMA understands the purpose of Section 204, and agrees that certain materials should be segregated from the general waste stream. However, it is important to distinguish so-called "household hazardous waste"—for example: pesticides such as DDT that have been banned; non-water based paints, varnishes and solvents that persist in the environment and are disposed of frequently in significant quantities by consumers; ammunition and explosives; and used motor oil and lead batteries which can be recycled—from packaged cleaning and specialty products that are safely used and disposed of on a regular basis. Such household products do not present the same type of environmental concerns as the above-mentioned wastes, and it is neither cost effective nor appropriate to handle them separately.

A series of waste characterization studies (see Note 1) have shown that hazardous wastes account for a minute portion of wastes generated by households that are found in landfills. People buy household products because they need them. These products have a long shelf life and can be stored easily, and consumers typically use them up before discarding the container.

A Los Angeles County Sanitation District study found only 2.69 pounds of "household hazardous waste" per ton of garbage—or only 0.13 percent of the total. Most of that identified as "hazardous" consisted of used motor oil, gasoline and solvents. Only five percent—0.065 percent of the total—was leftover consumer packaged goods. Significantly, nearly all of the containers of such household products examined in the study were empty.

Other studies in Palo Alto and Belmont, California, Portland, Oregon, Marin County, California, New Orleans, Louisiana and in six counties in Michigan also confirm that "household hazardous waste" accounts for less than five-tenths of one percent of municipal waste (see Note 1).

A review of all these studies was undertaken by Dr. Riley Rinman of the University of Cincinnati to determine what volume of household hazardous wastes might be reaching sanitary landfills, and what their impact might be. Dr. Rinman (see Note 2) has concluded:

- HHW are present in extremely low concentrations in municipal refuse, around 0.1 percent by weight.

- Small quantities of HHW in sanitary landfills do not keep microorganisms from doing their job of biodegradation.

- HHW have little effect on leachate or gas quality.

- The sanitary landfill can absorb large quantities of hazardous materials with little change in either leachate or gas quality.

- Collection days for HHW may not be necessary when the refuse is disposed in properly designed and operated sanitary landfills.

Consistent with these findings, Congress should ensure that all landfills comply with Subtitle D requirements as a means of alleviating concerns about these small amounts of household hazardous waste in municipal solid waste.

CSMA also supports the goal of Section 204—the identification by EPA of "hazardous" products for special treatment and separation from the waste stream—so long as thorough study and the use of appropriate scientific criteria ensures the identification of only those substances which because of their toxicity, concentration, volume, pervasiveness and exposure pathways have been shown to present a risk to human health and the environment when disposed or incinerated.

The Association, therefore, recommends that Section 204 be amended on page 32, line 2 to include the terms "concentration" and "pervasiveness." Certain compounds will react in different ways in the environment based on their concentration. The concentration of a toxic in a product, as well as how pervasive it is, should be important aspects of EPA's decision.

In addition, we urge that on page 32, line 3 the word "may" be changed to "have been shown to." Section 204 requires the Administrator to "determine the extent" to which hazardous substances are contained in products. The subsequent listing of products based on the criteria of toxicity, concentration, volume, pervasiveness and exposure pathways of the hazardous substances in those products only makes sense if the Administrator has had to undertake scientific review of data, and determined that indeed the products do present a risk. Such a risk assessment is essential to avoid the potential banning of necessary products which do not threaten human health or the environment. A product should only be listed for potential regulation under 204(b) if it has "been shown to" present a significant risk to human health or the environment.

CSMA also suggests that an annual list of products (page 32, lines 5 and 6) is not required, and a period after the word necessary on line 5 is appropriate. This will

require the Administrator to update the list as needed, but not require that it be done on an annual basis.

#### ENVIRONMENTAL LABELING

Although S. 976 does not specifically address environmental labeling, CSMA understands that the committee may incorporate S. 615 or similar legislation into a RCRA reauthorization measure.

On February 14, 1991 CSMA joined with nine other trade associations in petitioning the Federal Trade Commission to adopt voluntary national industry guidelines for the use of environmental marketing terms. This action is consistent with CSMA's position on regulation of environmental labeling (see attachment 1).

Because CSMA members market their products in interstate commerce, we strongly believe any regulation of environmental marketing terms must be uniform and done at the Federal level.

Uniformity should be the paramount goal of policymakers if the public is to be assured of receiving consistently accurate information about products and packaging in the marketplace.

CSMA believes, therefore, that if Congress legislates in this area, such legislation should unequivocally preempt any State or local laws and regulations not consistent with Federal standards.

While we recognize that Congress is generally loathe to use its preemptive authority under the Commerce Clause, there is substantial precedent for the wisdom of this approach in the area of labeling. There are no fewer than thirteen major statutes affecting products sold in interstate commerce which preempt State labeling requirements (see attachment 2).

Most recently, in 1990 Congress passed the Nutrition Labeling and Education Act which established uniform requirements for nutrition labeling and health claims. The parallels between nutrition labeling and environmental labeling are evident, and CSMA strongly urges the committee to ensure national uniformity if it acts in this area.

#### CONCLUSION

CSMA appreciates the opportunity to submit this statement to the committee. We stand ready to assist the Congress in addressing the solid and hazardous wastes problems confronting our nation.

#### NOTE 1—WASTE CHARACTERIZATION STUDIES

*Control of infections, hazardous and radioactive waste disposal at the Puente Hills Landfill.* California Waste—Management Board, 1984.

*Characterization of Household Hazardous Waste from Marin County, California, and New Orleans, Louisiana.* W.L. Rathje and D.C. Wilson et al. U.S. Environmental Protection Agency, July 1987.

*Waste Characterization Study (Portland, Oregon).* SCS Engineers, Bellevue, Washington. Metropolitan Service Department, Portland, Oregon, December 1987.

*Solid Waste Stream Assessment for Chippewa, Delta, Isabella, Lapeer, Macomb, and Marquette Counties (Michigan).* SCS Engineers, Covington, Kentucky. Michigan Department of Natural Resources, March 1987.

*Waste Characterization Study: Assessment of Recyclable and Hazardous Components Final Report (East Palo Alto and Belmont, California).* Bonberger, Lewis, and Valdes. California Waste Management Board, March 1988.

#### NOTE 2—KINMAN STUDY

*Household Hazardous Waste in the Sanitary Landfill.* Riley N. Kinman, Ph D., Department of Civil and Environmental Engineering. University of Cincinnati. The Council of State Governments Conference on Solid Waste Management and Materials Policy, New York, N.Y., January 1988. [Reprinted in "Chemical Times and Trends," July 1988]

[Attachments to this statement have been retained in committee files.]

#### STATEMENT OF CHRISTIAN BJORNES, GREEN COALITION

This testimony reflects the views of the Green Coalition, a coalition of environmental clubs within the Fairfax County High Schools. We know that the youth of the world are going to be alive long enough to experience the consequences or bene-

fits of what is happening to the environment today. Our generation has the most to lose or the most to gain from human kind's response to the environmental challenge. That is why we are committed to reversing the current trend of ecological destruction and achieving environmental justice.

One of today's most serious environmental problems is that solid waste crisis. The country is running out of landfill space so many countries now turn to incineration as a way of solving their waste problem. Environmentally speaking this is not a good answer, in fact it is not an answer at all. Incineration is not only costly it is a waste of resources. We have to stop believing in the infinite availability of finite responses.

Although most incinerators today produce electricity, more energy is saved through recycling than the incinerator can produce. If one also takes into consideration the pollution incineration generates tight emission and ash control, one will see that incineration is not the best and cheapest way of solving the solid waste problem.

The City of Seattle, Washington has based their solution of the waste management problem on conservation and reduction of consumerism. They tried out unit pricing of household garbage instead of a flat fee. The charge for one unit in 1985 was \$1.50. The user had to subscribe to the number of receptacles he wanted to have collected every week.

The first year the generation of household waste did not decrease at all. In 1986 they saw a 1.1 percent decrease although 2350 new household had been added. And not only that, recycling had increased by 6.7 percent. The amount of solid waste kept decreasing and the recycling program was established.

The Seattle study is part of a larger report issued by EPA called "Charging Households for Waste Collection and Disposal." It also includes studies done of similar projects in Borough of Perkaise, Pennsylvania and Village of Ilion, New York. They all show that if people give proper incentives to reduce their waste and recycled more, they will. Close to 80 percent of Seattle residents offered a curbside recycling program and supported it.

The Seattle authorities found that not only did they help the environment by reducing the amount of waste incinerated and landfilled, they also saved money. It was easier for them to sell material for recycling to recycling plants because they could offer a steady and reliable supply of glass, aluminum, newsprint and other paper. The city also saved money in landfill fees.

We urge the committee to take a close look at the above mentioned EPA report and two reports on the same issue, "What Price the Garbage?" and "Economic Incentives for Managing Household Solid Waste" written by Haynes C. Goddard, Department of Economic, University of Cincinnati. I also ask the committee to consider the possibilities of a nationwide solution, similar to Seattle's to the solid waste problem that is both environmentally and economically sound.

I wish to thank the Environment & Public Works Committee for considering this testimony and I consider it a great privilege, as an exchange student from Norway, to be chosen to express the views of the Fairfax High School Green Coalition.

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#### STATEMENT OF THE NATIONAL ENVIRONMENTAL DEVELOPMENT ASSOCIATION

The National Environmental Development Association's Resource Conservation and Recovery Act (NEDA/RCRA) Project is an industry membership organization dedicated to fulfilling the public's demands for a clean and healthy environment and continued economic development and growth. Members are drawn from the aluminum, chemical, consumer products, electronics, mining, petroleum and pharmaceutical industries. These companies share a commitment to striking a balance between environmental and economic issues in the development of environmental policy and have formed a cross-industry coalition to address the reauthorization of the Resource Conservation and Recovery Act (RCRA). NEDA/RCRA is pleased to submit the following statement concerning Title IV of S. 976, the Resource Conservation and Recovery Act Amendments of 1991.

In making this statement, we are joined by the New England Council, which is a unique organization composed of businesses and institutions dedicated to improving the economic vitality and the overall quality of life in the six-State region. The Council is the nation's oldest regional business association and a successful example of regional cooperation in the United States. Council membership includes manufacturers, professional and financial services, wholesale and retail distributors, utilities, health care facilities and educational institutions.

NEDA/RCRA and the Council commend the subcommittee for examining the critically important issues contained within Title IV. These issues are perhaps some of the most complex and challenging issues in today's RCRA program. We support the legislative intent behind many of the provisions but believe that some provisions will hamper the nation's industrial competitiveness by excessive reliance on command and control approaches and Federal regulation that ignore the range of risks posed by materials covered.

#### INDUSTRIAL NON-HAZARDOUS WASTE PROVISIONS

##### *General Approach*

The universe of non-hazardous industrial wastes administered under RCRA Subtitle D is vast and diverse, encompassing an annual waste stream of 7.6 billion tons handled by more than 12,000 facilities nationwide, including industrial landfills, surface impoundments, injection wells, land application facilities and waste piles. More than 95 percent of non-hazardous industrial wastes are disposed of in landfills and surface impoundments.

Detailed information about the composition of this waste and its effects on human health and the environment is somewhat limited. In general, however, much of this waste consists of dilute, low-toxicity materials such as food processing residues, iron and steel slag, construction debris, sand and gravel, and process waste waters. The available studies indicate that the risks posed by these wastes range from generally negligible to more serious in cases where sensitive ecosystems are subject to incursions of poorly managed wastes.

Public concerns over the handling of these wastes and the capacity of the States to administer the program have arisen in response to well-publicized problems. These concerns could generate pressure to amend RCRA to greatly expand Federal Government involvement in the permitting process or even to regulate industrial non-hazardous wastes under a subtitle C-like program.

NEDA/RCRA and the Council believe that these measures would be ill-advised. With few exceptions, the major focus of the national waste management effort has been on hazardous waste, and any shortcomings in the implementation of Subtitle D are primarily the result of an insufficient commitment of Federal and State resources. Regulating industrial non-hazardous wastes under subtitle C or in a modified subtitle C-like program would inappropriately burden the current environmentally safe handling of most of these wastes. For example, subtitle C-like tracking of these wastes would create a costly administrative program for the regulating agency and the regulated community with little "real-time" benefit. Moreover, given the great size of the industrial waste universe, a massive increase in permitting requirements along the lines of the subtitle C model is doomed to failure. The subtitle C permitting record is no better than indifferent, even though the waste stream and facility universe are minuscule by comparison to those covered under Subtitle D.

We believe that a properly structured Subtitle D program is necessary to ensure responsible and effective handling of industrial non-hazardous wastes. Several things must happen in order to create a program with the necessary robustness.

First, the current relationship between the Federal Government and the States should be retained, and the overall level of activity increased. The existing division of responsibility makes sense because State and local governments must continue to be involved in local planning and facility siting decisions and because they can best provide the resources to administer the permitting and performance-monitoring requirements for the 226,000-plus non-hazardous waste units. The Federal role, through the Environmental Protection Agency, should be to provide technical assistance to help resolve local problems.

Second, any response to the permitting problem must involve the following points:

- The Federal Government should require that Subtitle D land-based treatment or disposal units have State permits. These permits should be either permits-by-rule or class permits.
- The Federal Government should require permit status notifications from all Subtitle D disposal and treatment facilities. These could be used to assess the universe of State-permitted facilities to be considered part of an approvable State Solid Waste Plan.
- States should retain the discretion to permit Subtitle D storage and recycling facilities to protect human health and the environment.
- Exceptions to this plan for Federal oversight of Subtitle D permitting should only be made on a case-by-case, waste-specific basis. For example, in cases where a particular class of waste poses a sufficient threat to human health and the environ-



ment to warrant tighter control, but not inclusion within Subtitle C, we believe more specific Federal waste management criteria may be justified.

This approach would continue to place the burden for siting subtitle D facilities where it belongs: with State and local governments. It ensures that the Federal Government can continue to devote its resources to its highest priority, hazardous waste management. The notification provision and on-going involvement in the approval process for State solid Waste Plans would give the Federal Government the information necessary to monitor State permitting efforts without retarding the siting process.

#### *Comments on Section 403 and 404*

With regard to the approach outlined in S. 976, NEDA/RCRA and the Council offer the following comments on the provisions contained in Sections 403 and 404.

We believe that while the permitting provisions of section 403 attempt to provide the necessary flexibility, in practice they may be of limited value. Foremost among our concerns is the permit-by-rule provisions. Limiting permit-by-rule authority to situations where "no single facility is likely to cause significant damage to human health or the environment" would effectively ensure that permits-by-rule would never be issued. single-facility concerns are more appropriately handled through enforcement authorities or through the "imminent endangerment" provisions of RCRA Section 7003.

In addition, given the flurry of State regulations implementing the industrial D provisions and the number of units that could be affected, it is essential to lend some certainty and stability to the permitting process in order for businesses to make sound, long-term plans. Certain provisions of Section 403, such as requiring permits to be modified within 18 months of promulgation of new standards, fail on this count. Permits are more appropriately revised at the time of renewal. This benefits not only industry but also State regulatory agencies, which would be heavily burdened by the provision.

Section 404 attempts to address the immensity of the task in the subtitle D area by focusing resources on specific categories. However, the implementation timeline is overly ambitious. The size of the subtitle D universe and the range of risks posed both suggest that a more measured approach is essential to ensuring that perceived risks are not overcontrolled and that Agency or State resources are available to complete the task. For example, to require blanket statutory liner and groundwater monitoring requirements is to ignore the fact that many of the wastes managed in industrial impoundments pose no threat to human health or the environment. The only exemption allowed requires a cumbersome site-specific demonstration of equivalency that is likely to entail significant resources. The costly impoundment requirements also appear to apply to the thousands of miles of ditches or other conveyances that may contain only stormwater or cooling water.

Most importantly, NEDA/RCRA and the Council believe that sections 403 and 404 place far too much authority in the hands of the Federal Government. While the Federal Government should be responsible for the development of minimum criteria where specific waste streams pose clear risks, the States should be responsible for developing and implementing most of the subtitle D management standards. State regulatory officials are best positioned to ensure that potential risks are controlled cost-effectively and to use the information that they collect to develop effective local plans.

#### INDUSTRIAL RECYCLING PROVISIONS

##### *The Need for Separate Regulation*

RCRA is replete with congressional directives to EPA to encourage and accommodate the recycling and reuse of waste resources. Indeed, waste minimization is a paramount national environmental goal. We believe that EPA should carefully consider these directives each time it seeks to extend the jurisdiction of its regulatory program under RCRA. In particular, EPA's assessment of environmental impact must be consistent with Congress's directives. The interests of human health and the environment are best served, and the national goals of waste minimization and resource conservation best achieved, to the extent that encouraging recycling and reuse eliminates disposal of hazardous and solid waste.

However, RCRA's designation of recyclables as "hazardous waste" stigmatizes and often precludes reutilization or recovery of materials that have genuine economic value and can be reused to make beneficial products. Raw materials and/or processing supplies often have the same physical or chemical characteristics as hazardous waste, yet are generally viewed as quite manageable. But the public has been taught to view hazardous wastes as an imminent threat to health and the environ-

ment regardless of the use of appropriate safeguards, and has been misled into thinking that such materials cannot be handled safely.

This public resistance to hazardous waste, combined with existing regulations that inhibit or prevent the use of recycled materials, have made many industries that might use it correspondingly wary. Many facilities simply do not want to risk the public's anger, even though their operations and materials handling procedures are outstanding in protecting health and the environment.

Apart from this risk, companies using recycled materials must comply with the many onerous regulations governing hazardous materials recycled under RCRA at treatment, storage or disposal (TSD) sites. Without a Subtitle C permit, onsite storage under RCRA is limited to 90 days. Yet in many cases, a small amount of hazardous material (recyclable material) may require more lengthy storage for processing in a batch operation large enough to be economical. In addition, companies that bring materials from several facilities to a central recycling location are immediately subject to permitting requirements. Subtitle C permits are expensive, time-consuming and difficult to obtain due to public resistance and the "not-in-my-backyard" syndrome. EPA regulations also designate as a hazardous waste "... any solid waste generated from the treatment, storage, or disposal ... of a [listed] hazardous waste" (40 CFR Part 261.3(6) (2) (i)). This provision is commonly referred to as the "derived-from rule." It results in the "hazardous" designation being applied to any residue (and in some cases to the product itself) produced by the treatment, including recycling, of a hazardous secondary material—irrespective of whether the residues pose any actual risk. This is true even when only a small amount of an EPA listed hazardous waste is used in relation to virgin materials in a "non-closed-loop" manufacturing process. The only remedy to this risk-blind rule is an even greater disincentive to expanded pollution prevention efforts: companies can pursue site- and wastestream-specific delisting petitions. These petitions are expensive and time consuming for both industry and EPA. Petitions cost several hundred thousand dollars to prepare and require an average of two years to process. Only 12 percent are generally approved.

NEDA/RCRA and the Council believe that a more rational approach is imperative—one based on the actual, not assumed, nature of the material left as the residue of recycling.

### *The Value of Recycling Over Waste Treatment and Disposal*

Industry believes that materials should not be labeled as waste (either hazardous or non-hazardous) unless they have no economic value or are consciously disposed of despite their value. Recycling includes the recovery of economic value from materials that can no longer serve their original purposes. The reuse and/or reclaiming of a material is recycling, regardless of the number of processing steps required in the recovery operation.

Recycling is of major importance to industry and the national economy, both to reduce manufacturing costs and to prevent further liabilities as the result of land disposal. However, a common misconception is that industry can instantaneously modify processes and stop generating wastes, hazardous or non-hazardous.

This is seldom possible in practice. Materials can sometimes be substituted so that non-hazardous wastes are produced. Some industrial processes can be modified or redesigned to avoid the generation of hazardous waste altogether. However, most industrial processes can only be fine-tuned to generate minimum hazardous waste because of the nature of the processes required.

Many of these waste streams contain materials of some economic value. But a single component of the waste stream can subject the entire stream to the restrictions of the hazardous waste regulations. The almost inevitable effect is the management by incineration or other treatment prior to land disposal.

This is why the recycling of materials that would otherwise be disposed of as hazardous waste is important to industry and the nation: It provides a means of handling, in an environmentally sound manner, secondary materials from which valuable resources can be recovered—thereby reducing both the need for additional hazardous waste treatment/disposal capacity and virgin materials. In addition, environmentally sound recycling may also eliminate future environmental and financial liabilities associated with the long-term uncertainties associated with disposal, potentially reduce manufacturing costs and promote resource conservation.

The current hazardous waste designation of many materials has caused the loss of opportunities for recycling and reuse. Because recycling is now subject to the regulatory controls for hazardous waste treatment and disposal, the long-standing and economically justifiable practice of recovering valuable material from previously used materials has, in some cases, been abandoned and replaced by disposal. This practi-

cal reaction to the onslaught of hazardous waste regulation is the exact opposite of what Congress intended under RCRA.

To accomplish its recycling and waste minimization objectives, EPA should develop a new regulatory system under RCRA which would make a distinction between waste materials which are destined for disposal and those materials which are recyclable and recycled. The new RCRA system should address the special issues associated with the recycling process.

NEDA/RCRA and the Council are convinced that a RCRA recycling program can be developed and administered by EPA to meet the dual objectives of protecting health and the environment without disadvantaging recycling compared to the use of virgin material. Implementation of the program should ensure that the use of the recycled material would not result in significantly greater potential to adversely impact human health or the environment than would the processing or use of a comparable raw material or product in its original form. Impacts associated with disposal verses recycling of the material would also be evaluated along with a determination concerning its substantial value and effectiveness as a substitute as a raw material, or product, when compared to the material that it is replacing.

#### *Elements of a New Recycling Program*

Implementation of such a program would first require a clarification of the scope of RCRA to distinguish between those materials destined for disposal and those destined for recycling.

The revised program would identify the materials to be regulated as recycled materials. Materials currently covered under closed-loop exemptions or other existing solid waste exemptions would not be regulated as recycled material or as a solid waste. These include those materials described at 40 CFR Part 261.2(e):

- Materials that are used or reused as an effective substitute for a commercial product;
- Materials returned to original or similar processes by which they were generated; and
- Materials used without reclamation to make a product.

In its rulemakings, EPA has carefully evaluated the factual situation surrounding these and other exemptions and has determined that these activities are integrally related to the production process and do not warrant regulation as waste management. However, many legitimate recycling operations have been found to be subject to EPA RCRA jurisdiction. It is those materials that are at issue.

In developing the regulatory structure of the new program, EPA should consider a certification and notification approach coupled with the establishment of performance standards and direct management requirements. A person recycling a material which would otherwise be a waste could apply to be regulated under the recycling program or continue to be regulated as if the material were waste. Such a system would encourage beneficial recycling while giving EPA the necessary enforcement tools to guard against "sham recycling." A complicated permitting process, as currently exists under subtitle C, must be avoided.

Key components of the regulatory program should include the following:

- Requirement for notification in writing to EPA to apply for coverage under the new recycling program.

- Requirement for appropriate public disclosure.
- Demonstration that the facility is engaged in legitimate recycling.
- Compliance with all applicable Clean Air Act, Clean Water Act, Occupational Health and Safety Act and other environmental and health statutes and regulations that apply to the recycling facility.

- Analysis of materials entering the recycling facility.
- Determination of the regulatory status of residues at the end of the recycling process. The "derived from" rule would not apply.

- Compliance with applicable RCRA waste disposal regulations for those residual materials that must be disposed.

- A manifest system for material being shipped off-site describing the type and quantity of material being shipped.

- Proper handling and storage requirements to address the issue of "speculative accumulation" by limiting the time over which such material may be stored prior to recycling.

- Adequate restrictions regarding the mixing of recycled material with solid or hazardous wastes.

- On-site recordkeeping requirements concerning the manner in which the material is used, reused or reclaimed, including records relating to the type, quantity and disposition of such materials.

● The establishment by the EPA of performance/management standards where necessary to protect human health and the environment.

#### *Controls for Waste-Derived Products*

Products should be regulated to the degree that they pose a risk to health, safety or the environment. The risk that a chemical creates depends on its inherent toxicity and the concentration, duration and frequency of exposure to it.

The Toxic Substances Control Act (TSCA) provides a ready vehicle for regulating both virgin and recycled material equally. TSCA provides the authority to regulate all aspects of chemical production, processing, distribution, use and disposal.

Under TSCA section 6, EPA can regulate chemicals that are already in commerce. Under this section of the law, the Agency can:

- prohibit or limit the use of a substance in excess of specified concentrations;
- require warnings or instructions for a chemical; and
- impose recordkeeping requirements for a substance.

TSCA clearly provides EPA with all the authority necessary to protect against risks to health, safety and the environment. The Agency is now streamlining its administration of the law to make it more efficient and to enable it to regulate chemicals using fewer resources. We understand that the Agency plans to put more emphasis on regulating existing chemicals in the revamped program. We also understand that the new chemicals program is working well, and the Agency is shifting relatively greater resources to regulate the risks of chemicals already in commerce.

Imposing additional requirements on recycled materials is not consistent with the policy of encouraging recycling and the use of recycled material. Additional regulation, costs and administrative delays would make recycled materials less attractive to potential users by increasing costs of recyclable materials and would thus encourage the greater use of substances created from virgin materials.

In addition, there are other regulations and statutes that regulate product development and use. To regulate recycled materials, EPA or other Federal agencies could use the existing authorities under the Consumer Product safety Act, the Food and Drug Act, and Federal Insecticide, Fungicide and Rodenticide Act.

Finally, concerns about product liability have made companies extremely cautious about marketing products which could be conceived to be a potential risk to human health and the environment. Financial risks associated with the present system of awarding damages have caused some companies not to manufacture products or engage in operations that might lead to even a remote chance of such liability. Waste-derived products are certainly no exception. Companies engaged in such operations are sensitive to both public perception and potential liabilities.

#### *Comments on Section 405 and S. 982*

NEDA/RCRA and the Council believe that while the subcommittee attempts to remedy the existing problem, the drafted cure may kill the patient. The legislative framework established in S. 976 and S. 982 continues to regulate the materials under the inappropriate hazardous waste treatment and disposal umbrella. We understand the subcommittee's desire to ensure that EPA has adequate authority over recycling. However, the proposed solutions would continue to severely disadvantage legitimate recycling when compared to virgin material processing and force continued, unnecessary reliance on treatment and disposal.

Both S. 976 and S. 982 are overly expansive in scope with respect to the recycling of materials that meet a listing description or exhibit a hazardous characteristic. EPA and affected parties have spent many years distinguishing between production-like processes and waste management-like activities. The results of these labors are the current exemptions and exclusions found in 40 CFR Part 261. Both legislative approaches, as currently drafted, call in question the deliberative process of the past decade. Furthermore, some of the language would suggest that even non-secondary materials are subject to RCRA jurisdiction.

Both S. 976 and S. 982 fail to adequately remedy the current problems presented by the mixture and derived-from rules. Residues from recycling operations should be evaluated on their own merit. If the residue exhibits a hazardous characteristic and is destined for disposal, it should be subject to subtitle C. In addition, under existing statutory authority EPA may specifically list residues from recycling operations as hazardous waste, e.g., still bottoms from the recovery of spent solvents.

Finally, the permit schemes envisioned in both S. 976 and S. 982 are likely to result in even less legitimate recycling than is currently occurring. S. 976's permit-by-rule authority is again restricted by the "single facility" concern. We believe the more appropriate tool to address single facility concerns is vigorous use of enforcement authority. Also, S. 976 fails to recognize the legitimacy of energy recovery activities. Energy recovery activities are in most cases already addressed by the EPA's

recent Boiler and Industrial Furnace rulemaking. Regulation of these activities as hazardous waste incineration would effectively ensure that this beneficial recovery of energy values ceases. Both bills also include statutory hammers that would regulate all recycling as treatment or disposal, absent timely action by EPA. We are concerned that, given the press of post-enactment activity, EPA could miss this deadline with chilling results for American industry competitiveness.

Attached to our record statement is the legislative language that NEDA/RCRA has developed on the issue of industrial recycling. We ask that the subcommittee examine this language as it addresses many of the issues that we have raised in our record statement. NEDA/RCRA and the New England Council welcome the opportunity to work with the members of this Subcommittee to ensure that during this RCRA reauthorization the interests of human health and the environment are best served and the national goals of pollution prevention and resource conservation best achieved.

#### ATTACHMENT A

##### NEDA/RCRA'S PROPOSAL FOR RECYCLED MATERIALS

NEDA/RCRA proposes to establish in RCRA the authorization for a flexible program to regulate and encourage the recycling of material that would, if discarded, be solid waste or subject to EPA's hazardous waste requirements.

Removal of regulatory disincentives and adoption of a regulatory program specifically geared to reuse and recycling will contribute significantly to waste reduction. A recycled materials program would govern those materials that, if disposed of, would be regulated under Subtitle C or D of RCRA.

The principal elements of the new regulatory program would include:

- protection of human health and the environment;
- encouragement of maximum legitimate reuse and recycling of materials for either direct reuse or energy recovery;
- use of flexible regulatory approaches to foster a balance between protection of the environment and encouragement of recycling, so as to ensure that recycled materials are not disadvantaged in comparison to virgin or raw materials; and
- provisions to allow the States to administer the recycling program.

To eliminate disincentives to recycling while providing EPA with appropriate authority to regulate such materials, RCRA should be amended to authorize EPA to establish a regulatory program specifically for "recycled material." Any material subject to this program would be exempt from the requirements of RCRA subtitle C or D related to hazardous and solid waste. Such provisions would be consistent with the intent of EPA's January 26, 1989 Proposed Pollution Prevention Policy statement to fully utilize source reduction techniques and environmentally sound recycling (54 Fed. Reg. 3845).

NEDA/RCRA has therefore developed several amendments to the Federal Resource Conservation and Recovery Act. Key among them are a new definition of "recycled material" and the creation of a new and effective program for recycling, to be administered under a new subtitle K governing recycled material.

##### *New Definition of "Recycled Material"*

The scope of RCRA should be clarified to distinguish between materials destined for disposal and those destined for recycling. Materials currently covered under closed-loop exemptions or other existing solid waste exemptions would not be regulated as recycled material or as solid waste, such as those found at 40 CFR Part 261.2(e):

- materials that are used or reused as an effective substitute for a commercial product
- materials returned to original or similar process from which it was generated
- materials used without reclamation to make a new product

A definition of recycled material is key to the program. The materials meeting the definition and covered by the new recycling program would not be regulated as waste.

The new recycled material provisions are needed in order to give EPA specific guidance on the management and utilization of valuable materials that would otherwise simply become part of a burgeoning disposal problem in the United States.

Obviously, the recycling provisions must be carefully drawn to guard against "sham" recycling, which is simply disposal without beneficial effect. Sham recycling is the primary issue the environmentally active public focuses on when conceptually evaluating the merits of recycling. Industry must therefore be particularly strong in

its condemnation of the practice and should be united in support of vigorous enforcement of EPA regulations against sham recycling operators.

However, a more positive regulatory approach than has been proposed to date is essential to achieve legitimate recycling. Practice and policy must be based on the fact that most substances in their original product form are calmly accepted and responsibly managed throughout the Nation every day. Just because such substances have been used in some way does not automatically render them a unique threat. A balanced approach must be taken to permit maximum legitimate utilization of materials that would otherwise become wastes. Such policies will conserve resources, minimize wastes and foster creative re-utilization of materials, thereby avoiding the creation of solid waste which must be discarded and the environmental consequences of such disposal.

#### *Performance Standards*

The new program should be structured to rely upon the establishment of performance standards and direct management requirements rather than a complicated permit program. In developing these new regulations, the EPA Administrator should be required to examine whether the use of recycled material would have greater impacts on the environment than the use of primary or virgin material. Any differences in the regulation of recycled material should be based on those greater impacts, so that use of recycled material would not suffer from a regulatory disadvantage with respect to competing, virgin materials.

The definition of recycled material is intended to make it clear that these statutory provisions do not regulate the recovery of usable material from virgin products and materials in initial processes. Direct reuse of material will be regulated in the same way normal materials handling processes are treated. Special environmental regulations should only be written to govern those aspects of recycling that involve special concerns related to reclamation, energy recovery or use of recycled material that produces adverse environmental consequences different than those of similar virgin or raw products. (Manufacturing processes that represent a potential risk to employees would, of course, continue to be regulated by OSHA, MSHA and other appropriate agencies. Similarly, direct reuse would be governed by EPA and/or State rules governing process operations.)

#### *Certification*

In order for any owner or operator of a facility or activity that stores or handles recycled material to qualify for coverage under the new RCRA subtitle, a written notice would be required to be filed with the Administrator for certification of approved recycling status. The notification and request forms would require a demonstration that the facility is in fact engaged in a legitimate recycling, not sham recycling.

In connection with the storage of materials destined for recycling, the rules and regulations of the Agency will also need to address so-called "speculative accumulation" to reasonably limit the time over which such material may be stored prior to recycling if storage goes beyond 180 days.

In determining whether a material to be recycled has economic value, the Administrator should also take into account the avoidance of costs related to disposal. Certainly the exorbitant cost of the disposal of certain recyclable materials, even if they are sold at a modest cost for such purposes, is a legitimate factor in considering whether the material has value to the recycler or subsequent user and to the generator who would otherwise be forced to dispose of the material at far greater cost. Disposal itself has adverse consequences which must be balanced against the use of that material for some valuable purpose in lieu of total disposal. This new recycling program should also contain appropriate provisions to allow the Administrator to take into account any need for differing requirements if the material is recycled on-site or off-site, and whether by the generator or another person.

The Administrator would certify a facility or activity as a recycling facility or activity to be governed by this new subtitle if he finds that in the case of recycled material:

(1) the use of such material does not or would not result in a significantly greater potential to damage human health or the environment than would the processing or use of a comparable replacement raw material, fuel or product in its original form (including the adverse impacts if the material were disposed of instead); and

(2) such material has economic value as a raw material or product when compared to the material it is replacing; or (3) such material is an effective substitute for the material it is replacing.

### *State Administration Option*

Finally, the new program should contain provisions allowing the States to apply to EPA for approval to administer the recycling program in lieu of the Federal Government. Administrative, civil and criminal penalties would be provided along with inspection authority.

In sum, the key concepts to be embodied in the new recycling program include:

- protection of human health and the environment;
- maximize recovery, minimize waste;
- encourage maximum efficient use of basic resources;
- recycled materials are not treated as waste materials;
- foster recycling and remove current RCRA disincentives to recycling;
- a notification, certification and standards approach should apply (rather than permitting);
- simplified administration generally; and
- States should be delegated authority to administer the program.

### STATEMENT OF THE NATIONAL NEWSPAPER ASSOCIATION

The National Newspaper Association is the nation's oldest and largest newspaper trade association. Founded in 1885, NNA represents more than 5,000 small daily and weekly newspapers throughout the entire country, including more than 700 dailies. Paper is one of the primary commodities of our trade and we are vitally interested in any legislation which would affect the availability of a ready supply of good quality newsprint. We urge this Committee to oppose provisions of S. 976 which would mandate use of a certain percentage of recycled newsprint.

NNA has favored newsprint recycling for many years and we have encouraged our members to use recycled newsprint to the maximum extent possible. The newspaper industry as a whole used about 14 percent recycled newsprint in 1989, an amount that is expected to grow to 40 percent by 1993. Such an increase is possible because recycling technology has improved over the last few years to make higher quality paper grades available. It has become available because publishers have pushed for it with their suppliers. Recycling efforts are market-driven. The newspaper industry supports the goals of protecting the environment and maintain a high quality of life in this country.

The problem we have with the newsprint provisions of S. 976 is not really a disagreement in principle but a disagreement with the means of reaching a common goal. We strongly endorse the testimony of Robert Johnson, president of Newsday who testified on behalf of the American Newspaper Publishers Association on June 6. The regulatory approach taken by S. 976 would unfairly penalize some newspapers. We believe such an approach constitutes Federal manipulation of a private market.

The proper area of concern should not be the recycled fiber content of newsprint but the amount of newsprint which is diverted from the solid waste stream by whatever method. Whether it become box tops, insulation, packing material, animal bedding, compost or recycled newsprint is irrelevant to the primary goal, which is the reduction of material going into landfills. NNA believes this goal will best be met by providing the widest possible range of markets for all recycled materials, including newsprint. Therefore, we urge this Committee to reject Federal regulation of newsprint and give free market forces a chance to continue to work on their own.

In fact, it is counterproductive to encourage the recycling of old newsprint (ONP) exclusively to recycled newsprint. When newsprint is recycled, some fibers (about 20 percent) are broken and filtered out. The remaining ones are shorter, flatter and break more easily. With each cycle of use, the paper becomes lower in quality. After several cycles, this paper would be rejected as too poor a quality for the manufacture of newsprint. Yet it could be used in packaging, animal bedding, insulation and a number of other goods, instead of newsprint.

Requiring that publishers use a particular percentage of recycled newsprint channels ONP into one market, whereas just providing goals for use creates more flexibility in developing markets and provides more potential for growth. This Committee has an opportunity to develop an expanded vision of what recycling means—not just turning old goods into new versions of the same, but into entirely different products. The support of mandates that will tie up the ONP market, will hinder entrepreneurs with fresh ideas for ONP who may find themselves unable to obtain a steady supply of material to produce their products. Federal regulation introduced during a time of rapid market change could actually interfere with the movement toward more recycled content in the future.

Although many communities have begun recycling programs, there are not enough deinking mills in operation to process the material into recycled newsprint. Yet, we are operating in a marketplace where every available piece of recycled newsprint already has a buyer. If mandates are put into place, the small newspaper publisher who wants to move to recycled paper may be unable to do so because the available supply has been bought up by a larger newspaper in that area.

Mandates, because they would force greater demand than the deinking mills could meet, might create an artificial market situation in which recycled-content paper could cost more than it should. If this happens, publishers will have a disincentive for moving to the maximum level of recycled newsprint—one that would not occur if the market were allowed to operate naturally.

It would be more productive for Congress to encourage grassroots responses to the problem of solid waste rather than try to expand Federal regulation. Those newspapers in the northwest may find it fairly easy to obtain recycled newsprint while newspapers in the east may have significantly more difficulty. It may be more practical and economical to sell old newsprint (ONP) to a local manufacturer who may use it for paper bags rather than transport it to Canada for de'inking it could be sold. For instance, a farm town in Wisconsin may be able to sell its entire supply of ONP to dairy farms as animal bedding.

Not only do solutions vary by region, but they vary by the size of the business involved. Even if a small business exemption is included in a final bill, the creation of an artificially tight market for recycled paper will cause difficulty for small newspapers since the available supply of recycled ONP is likely to have been bought up by larger newspapers. Larger publishing companies, because they buy in bulk and have the resources to invest in paper mills and support long-distance transportation to those mills, can negotiate much more favorable terms for contracts than the small community daily publishers.

Our members consider themselves good citizens and, as an industry, we are taking an active part in environmental issues. Many local and regional recycling task forces throughout the country include publishers of local newspapers. In addition, these newspaper publishers are working hard to educate their communities about the need for recycling.

Community newspapers provide many vital services to their communities. They publish notices of public hearings, legal notices, school schedules, announcements of the meetings of civic organizations, and information about local election issues. They, not the large metro dailies, are the watchdogs of our local school boards, tax boards, etc. Their editorial products are subscribed to or requested by those who receive them. It is frustrating—and not fair—for them to see themselves singled out under this bill, while other paper products such as magazines, advertising circulars, catalogues, phone books and other materials which have a much poorer record of environmental responsibility are excluded from the bill.

Newspapers only make up about five percent of the solid waste stream, down from eight percent in 1986. They have a very high recycling rate with nearly 6 million tons of ONP being recycled into newsprint and other products in 1990. And this has been consumer-driven change, not one guided by the Federal Government. The oversupply problem municipalities are now facing is a temporary one which will dissipate as new deinking mills begin production. The enactment of Federal regulation to fix such a shortterm problem would be like using an elephant gun to kill a mosquito—an overuse of firepower. Thank you for providing us with an opportunity to submit this statement for the record.

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#### STATEMENT OF THE PAPER RECYCLING COALITION

The Paper Recycling Coalition (PRC) includes companies that manufacture 100 percent recycled paper and paperboard. These companies are Field Container Corporation, Garden State Paper Company, Inc., Halltown Paperboard Company, The Newark Group, Newman & Company, Inc., Rock-Tenn Company, Sonoco Products Company, Southeast Paper Manufacturing Company, Waldorf Corporation, and White Pigeon Paper Company. The PRC's mission is improving the public's understanding of the paper recycling industry and assisting legislators and regulatory agencies in addressing Federal policies which affect the industry's goals. The PRC's goals are managing our material resources and maximizing paper recycling to the fullest extent economically and technically feasible.

With 39 mills and 271 plants nationwide, PRC member companies have over 21,000 employees in 35 States. (Attachment 1 is a roster of companies and facilities.) Member companies consume approximately four million tons of recovered paper an-



nually. This paper is purchased from municipalities, brokers, non-profit organizations, private vendors, publishers, individuals, and converting plants.

One year ago these ten companies which manufacture 100 percent recycled paper and paperboard products recognized they had a vital interest in informing Congress and other decision makers about paper recycling from the perspective of manufacturers who have been in the business for decades, and some for over a hundred years. Many PRC member companies are small family owned businesses. All members of the PRC are also members in good standing of the American Paper Institute. The PRC has witnessed the growth and explosion of interest in the purchase of recycled paper products. Based on the member companies' history in the business and position in the marketplace, the PRC believes they are uniquely qualified to advise the Congress on what works and what doesn't work in the marketplace. The PRC shares with Congress the goal of increasing the recycling of recovered papers which are currently being landfilled and to maximize the manufacture of recycled paper and paperboard to the fullest extent economically and technologically feasible.

The Senate Environmental Protection Subcommittee's efforts to address the nation's disposal crisis and options to reduce the amount of solid waste requiring disposal are recognized and commendable. Recycling is an important means of reducing the volume of materials which must be disposed. The meaning of the term "recycling" appears to be simple and straight-forward. However, recycling is actually a complex process with many technical and economic components. In practice, "recycling" means any process by which materials which would otherwise become solid waste or materials recovered from the solid waste stream are separated, collected, processed and reused or returned as a product to the marketplace.

Recycling is a process or a cycle. No one element is "recycling" in itself. Put if any element is missing, there is no recycling. Yet we tend to view each element—separation, collection, processing and use as a raw material—as "recycling". Recycling is completed when the recovered material is used in the manufacture of a product. While we all play an important role, no one of us, on our own, is the "recycler".

*Recovered materials should be clearly excluded from the definition of solid waste and remain completely outside the authority of solid waste regulation*

The increased manufacture of recycled paper and paperboard products may mitigate the solid waste management problem, but that manufacture is not solid waste management. Our facilities do not process solid waste and as such should not, as proposed in S. 976, be included in State solid waste management plans, or be required to obtain solid waste permits. Recycled paper converting and manufacturing facilities already currently must comply with Federal, State, and local environmental protection requirements.

We do not use one pound of waste in our manufacturing and converting plants. As manufacturers we utilize recovered paper as a fibrous raw material in the production of new paper products. We process millions of tons of recovered materials at our mills each year. Most of these raw materials were diverted from or source separated from the solid waste stream. Therefore, they never become solid waste. Some of our raw materials are recovered from the solid waste stream. In each case they ceased to be solid waste and become recovered materials. In every case, when recovered materials arrive at our facilities they are processed and used. Every pound of recovered material that we use would have otherwise become solid waste and could have required land disposal.

While S. 976 has conceptually opened the door to this important distinction—that the entire paper recycling manufacturing process is not the management of solid waste—the measure must be made more clear. Recovered materials are important commodities, not solid waste. While not explicitly included in the current definition of solid waste in RCRA, a primary objective of the RCRA reauthorization process should be the clear and precise distinction between recovered materials and solid waste. Facilities which engage solely in managing recovered materials, and which already comply with Federal, State, and local environmental regulations should not be further regulated.

The PRC urges the committee to review recent progressive State legislation which makes this distinction. The States which distinguish between recovered materials and solid waste are: Georgia, Kentucky, Louisiana, Tennessee, South Carolina and Missouri.

The provisions in S. 976 create the potential for restricting or prohibiting the transport of recovered materials to PRC facilities if a State fails to develop, implement, and/or enforce its solid waste plan. The PRC's manufacturing activities should not be reliant on the progress or lack of progress of a State to meet its solid

waste management responsibilities. The current land disposal crisis and the entrenchment of the NIMBY syndrome have inhibited the States' ability to meet any specific solid waste reduction or national recycling goals. Therefore, the provisions in S. 976 which would restrict or preclude access to and delivery of recovered materials to our facilities can serve only to create and entrench uncertainty in the marketplace which in turn dampens any enthusiasm for expanding or creating new recycling capacity.

The PRC has considered what Federal legislation would be helpful in increasing the amount of materials recovered, their utilization, and increasing demand for the purchase of recycled paper and paperboard products. Foremost would be the establishment of uniform national definitions for recycling, recovered paper, recycled paper and recycled content paper.

These definitions will directly impact on the collection of recovered paper and the manufacture of recycled paper and recycled content paper. The unintended impact of S. 976 by including recycling manufacturing facilities in solid waste management and the reporting and administrative requirements imposed would be to make recycled paper products less competitive. S. 976 does provide an opportunity to distinguish between solid waste and recovered paper. In creating subcategories of solid waste, the potential for excluding recovered paper from "solid waste" is presented. The distinctions between reclamation, recycling, and toxics use and source reduction needs further review. Any consideration of solid waste transportation bans should be carefully established in order to avoid the potential for disrupting delivery of recovered paper to our plants.

However, the PRC does not suggest that these distinctions apply to hazardous material nor does it challenge the obligation government has in protecting public health and safety by overseeing the proper planning and execution of solid waste functions.

To highlight the PRC's position we emphasize that

- Recycling is a completed cycle or process, the end point of which is the manufacture of products.

- Recovered materials encompass materials that have not been mixed with solid waste, either because they have diverted from or source-separated or otherwise removed from the solid waste stream.

- Recovered materials are not solid waste and the raw material for recycled paper manufacturing is recovered papers and not solid wastes.

- Recycled paper manufacturing facilities are not solid waste management facilities. They should not be included in solid waste regulatory or permitting requirements or waste transportation bans because they were never part of the solid waste management system.

Since S. 976 introduces subcategories for solid waste, the opportunity should be taken to distinguish recovered materials from solid waste. The PRC has developed definitions which if adopted would provide a foundation for addressing this distinction in RCRA (See Attachment II.)

### *Toxics Use and Source Reduction*

The manufacture of recycled paper products should be viewed as source reduction since the recovered materials were diverted or reclaimed from the solid waste stream and, if not utilized, would require disposal. To restrict issuance of construction and/or environmental permits to the achievement of an arbitrary national source reduction goal over which a facility has no control will serve as a disincentive to make any substantial capital commitment to building new or expanded facilities to utilize recovered paper in the manufacture of recycled paper. Moreover, such a linkage raises the specter of unwarranted Federal intrusion into management's decisionmaking and production processes. The PRC is also concerned that should a commodity specific utilization rate not be achieved, the PRC's products could conceivably not be considered as "recycled paper".

In S. 976 if recovery of paper rates are not achieved, then interim goals are established which take into account the recovery of materials. For example, sawdust and recovered fiber from sludges might not be credited in the first accounting, but should an arbitrary recovery rate not be achieved, such materials could be counted toward meeting interim recovery requirements. The determination of recycled content could vary in time and location and allow for sawdust to be included on a national or regional basis if interim goals are established. The ASTM is presently addressing the issues of determining recycled content and accounting for the recovery of materials other than paper in the papermaking process. Therefore, the PRC strongly urges that the subcommittee allow this consensus process to continue and resolve these issues.

### *Standardization Process*

The PRC advocates the development and adoption at the national level of performance-based standards for recycled paper and recycled content paper and paper-board products. Performance-based standards assist in the competitive marketing of paper products comprised of recovered paper. Consumers can then make the decision between two products, one recycled and one from virgin materials. The PRC encourages the U.S. EPA to support development of ASTM to develop performance-based standards. An Executive Order already exists which embodies this tenet.

Standards which address the source of recovered materials inherently preclude or favor certain recovered materials regardless of their composition or quality and inhibit the ability to utilize these materials in the production of products meeting performance requirements. Such source-based requirements such as "pre/post consumer" are counterproductive to recycling and have the unintended consequence of making certain recycled paper products more costly, and thereby less competitive—regardless of whether or not product performance requirements are met.

If commodity specific recycling rates are not met by December 31, 1995, the Administrator, U.S. EPA, is charged to promulgate for each paper grade standards for minimum recycled materials content. This provision in S. 976 imposes a significant and costly administrative requirements on any manufacturer that utilizes recovered paper. This provision discriminates against those manufacturers that meet or exceed minimum content requirements versus those who opt not to produce any product with recycled content. Consequently PRC member companies would be placed at a severe market disadvantage at present and in the future.

In addition any standard which distinguishes between sources of recovered materials can only serve to confuse potential vendors of recovered materials, purchasers of recovered materials and ultimately purchasers of recycled paper products. A "single tier definition for recycled paper" is essential. S. 976 addresses this issue in its references to "deinking" and "post consumer waste". Therefore, S. 976 should eliminate any two-tiered approach and increase recovery of paper presently being landfilled. The PRC in recent months has been encouraged by the efforts of the Recycling Advisory Council to address the technical and institutional barriers presented by the term "post-consumer waste" and has submitted recommendations to the RAC supporting development of national uniform definitions and a one-tiered approach to crediting recovered paper. Moreover, the American Society for Testing and Materials (ASTM) has had underway development of standards for recycled paper products and given the reference to ASTM in S. 976, we encourage the subcommittee to review the efforts of the ASTM.

It is important to note that mill broke from 100 percent recycled product is 100 percent recycled mill broke. Mill broke has the content of the product it is taken from. The bill's distinction between reclamation and recycling is confusing and not conducive to increased utilization of materials which otherwise would be disposed. In contrast, the bill's definition of "recycling" is unclear and potentially could allow the crediting of the reuse of overstock virgin paper products prior to distribution as either recycling or source reduction.

The PRC opposes minimum content standards and questions whether the specific commodity utilization rates will have any measurable impact on the volume of solid wastes requiring disposal. Minimum content requirements create an disincentive to increased use of recovered paper and is a market disadvantage to those vendors whose products exceed minimum content requirements.

### *Uniform Labels and Symbols*

The PRC believes that a major objective in a RCRA bill must be to provide uniform information across the Nation which facilitates recycling. This guidance takes the form of definitions, standards, labelling guidelines, and education that together constitute clear and understandable rules of the game. Recycled products and packaging are marketed and distributed nationwide. But wellmeaning guidelines adopted by individual States create a patchwork quilt of regulatory requirements. The unintended consequence is confusion and misrepresentation surrounding recycling and recycled products.

Specifically, the PRC calls for uniform guidelines to govern a voluntary program of product and packaging labelling. The recycled paper industry has maintained the long recognized "chasing arrows" symbol to identify products made entirely from recovered paper. Any label used to indicate the recycled content of a product or package containing some virgin fiber should carry a percentage indicating the recycled content. Without a steady supply of virgin fiber, paper recycling could not occur, since paper cannot be recycled indefinitely.

Standards and definitions must be uniform across the country. If marketers and distributors cannot be certain their products or packaging meet the differing environmental requirements of various locations, they may choose not to indicate recycled content or other important qualities. Even worse, they may choose not to use or provide recycled packaging or products because of the confusion and cost of satisfying different requirements.

The unintended consequence of the patchwork quilt is that everyone loses. Manufacturers, distributors, retailers, and consumers lose confidence and patience with conflicting information carried by labels, standards, and public education programs. Progress toward increasing demand for recycled paper and recycled content paper is inhibited and recycling goals remain beyond reach.

Education must be increased nationwide as well. It is the key to increasing the overall level of recovery, recycling, and purchase of recycled paper products. The PRC strongly supports a program to educate the public in initiating and maintaining participation in efforts which divert or recover materials from solid waste, and in achieving the recovery of high quality materials. Programs must stress the differences between recycled paper and recycled content paper and that recycled products are not inferior to products made with virgin content. National coordination is necessary to avoid the presence of conflicting or erroneous messages in the public domain.

The PRC strongly opposes mandatory notification and reporting requirements on materials use and labelling.

#### *Minimum Content Standards*

Before the subcommittee embarks on measures designed to "jump-start" markets, the PRC believes that existing impediments to recycling first be removed and allowed time to work. Providing unfettered access to recovered materials, uniform definitions and labelling requirements and providing a single standard for recycled content would greatly increase the markets for the recycled products. Therefore, the PRC does not advocate setting standards for minimum recycled content in products. Upon initial consideration, minimum content requirements appear to be a positive step to increase the utilization of recovered materials. In practice, however, many manufacturers will treat these minimum recycled content requirements as a "maximum". In short, many manufacturers will be enticed or forced to reduce total recovered paper content in their product lines in order to remain competitive. The concept of minimum recycled content is analogous to a pass/fail system of grading. The incentive is merely to pass rather than to strive for 100 percent recycled paper. And for those manufacturers who currently produce 100 percent recycled paper products, minimum content requirements become a competitive advantage for those vendors whose products have less than 100 percent but who can label their products "recycled paper". A more accurate description is "recycled content paper".

In S. 976 the U.S. EPA and the U.S. DOC can determine minimum content standards for a commodity either by product category or an aggregate of products. Depending upon the method for calculation, an aggregation can be accomplished that allows products not currently containing significant per cent of recycled content to be combined with products with 100 percent recycled content in order to achieve the desired "recycling rate". The end result is that there is no incentive created to introduce recovered paper into the production of the former products and disadvantage for the latter. The PRC believes that every pound of recovered paper should be counted in determining recycled content. The PRC believes that achievement of national recycling goals will be thwarted by the imposition of differing definitions and product requirements State to State and region by region.

The PRC believes that every ton of recovered paper should be credited regardless of source. The PRC does not support Federal mandates on minimum content but does support methods which encourage crediting recovered paper usage as either "recycled paper" that is, 100 percent recovered paper content, or "recycled content paper" and appropriately labelled.

Additionally, the PRC does not advocate mandatory minimum content requirements. The PRC supports a pro rata or formula basis, which would permit paper recyclers to qualify for any benefits based on the percentage of "recovered paper" and "recovered material" content in their products. An aggregate content formula for all recycled goods can be used in determining the content requirements for procurement purposes. In establishing purchasing guidelines for recycled and recycled content paper, the standards should be based on the total amount of recovered fiber. For example, a purchase of 100 tons of various grades of paper such as paper towels, packaging and tissue may consist of varying ranges of recovered paper content. The purchases may include:

**Example I:**

10 tons .....	@	100 percent recycled paper	=	10 tons
10 tons .....	@	50 percent recycled content paper	=	5 tons
20 tons .....	@	70 percent recycled content paper	=	14 tons
60 tons .....	@	35 percent recycled content paper	=	21 tons

Overall recycled paper content..... = 50 tons

Total per cent recycled content paper purchased: 50 tons ÷ 100 tons = 50 percent

However, the goal could also be met by the following purchase:

**Example II:**

50 tons .....	@	100 percent recycled content paper	=	50 tons
50 tons .....	@	0 percent recycled paper content	=	0 tons

Overall recycled content paper..... = 50 tons

Total per cent recycled content paper purchased: 50 tons ÷ 100 tons = 50 percent

Or the goals could also be met by the following purchase:

**Example III:**

100 tons .....	@	50 percent recycled content paper	=	50 tons
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Total per cent recycled content paper purchased: 50 tons ÷ 100 tons = 50 percent

**Federal Procurement**

The PRC supports Federal agencies' purchase of recycled paper products. Elimination of the "post-consumer" content requirement in U.S. EPA's procurement guidelines is critical not only at the Federal level but also at the State and local levels since many government organizations emulate Federal procurement requirements.

**Conclusion**

The Subcommittee has embarked on an important undertaking—with market trying to increase the recovery of materials and the recycling of greater quantities of recovered paper. The PRC shares that goal, and its members are prepared to offer further information and data as requested in the development of S. 976. We believe that increasing the supply of recovered materials alone does not automatically result in an increase in the products being manufacture recycling and the purchase of those products.

For recycling to increase, these factors must be addressed:

1. Increasing and sustaining demand for recycled paper products.
2. The need for an adequate supply of quality raw materials.
3. Unimpeded access to that supply of recovered paper by the recycling industry.
4. The development of adequate capacity to process these raw materials in the manufacture of new products of acceptable quality.
5. The establishment of uniform national definitions and performance-based product standards.
6. Guidelines for the voluntary labelling of recycled paper products that is accurate and easily understood.
7. The creation and support for increased market demand for recycled paper products.

All of the aforementioned conditions must be addressed and accomplished in order to allow this industry to continue to utilize existing capacity to produce recycled paper products; and, to phase in expansion of new capacity in accord with market demand for our products.

The PRC appreciates this opportunity to provide written testimony for the hearing record and is available to provide additional information to the subcommittee and participate in the process of developing a RCRA bill.

## ATTACHMENT 1

## PAPER RECYCLING COALITION OVERVIEW

The Paper Recycling Coalition (PRC), formed in 1990, includes companies that manufacture 100 percent recycled paper and paperboard. The mission of the PRC is to improve the public understanding of the paper recycling industry and to assist legislators and regulatory agencies in addressing Federal policies which affect the industry's goals.

The PRC is made up of the following ten member companies: Field Container Corporation, Garden State Paper Company, Inc., Halltown Paperboard Company, The Newark Group, Newman & Company, Inc., Rock-Tenn Company, Sonoco Products Company, Southeast Paper Manufacturing Company, Waldorf Corporation, and White Pigeon Paper Company. With 39 mills and 271 plants nationwide, PRC member companies have over 21,000 employees in 35 States. Member companies consume approximately four million tons of recovered paper annually. This paper is purchased from municipalities, brokers, non-profit organizations, private haulers, publishers, individuals, and converting plants.

The Coalition works to identify specific issues which involve and impact our industry. At the center of those issues are some unifying ideas. First, recycled paper is composed entirely of recovered paper. Paper products composed of virgin materials, recovered paper, and/or recovered materials should be termed recycled content paper. While credit should be given for every pound of recovered paper, regardless of its source, the increasingly familiar chasing arrow symbol should be applied only to 100 percent recycled paper products.

The PRC emphasizes that its input materials are recovered paper and recovered materials and are not solid waste. To this end the PRC believes that State and local waste management programs should continue to address the collection and disposition of solid waste and in no way should control the flow of recycled commodities. Finally, the PRC supports Federal preemption for definitions and standards of recovered materials and recycled paper products, but in no way supports or seeks financial subsidies for recovering paper and materials or producing recycled paper products.

These ideas address not only Federal legislation, but also concepts and actions which will help the Coalition take a responsible role as our industry works with other organizations and individuals interested in public policy goals that involve recycling. The Coalition can act as a resource, providing data and valuable examples of how recycling currently works as a successful component of good materials management.

As government moves from a passive to active participant in the solid waste management system, mandated regulation which dramatically affect the recycling industry have and will continue to be introduced. Given the numerous agencies which address this important issue, and its complicated nature, the PRC is committed to providing regulatory agencies and legislative representatives and their staffs with timely and authoritative information: to allow them to make decisions in an informed and responsive manner.

COLLIER, SHANNON & SCOTT  
WASHINGTON, DC.

October 1, 1991

Hon. Max Baucus  
United States Senate  
Chairman, Subcommittee on Environmental Protection, Committee on Environment and Public Works, Washington, DC.

DEAR SENATOR BAUCUS:

This written testimony is submitted on behalf of the Steel Manufacturers Association ("SMA") in response to proposed legislation that would amend the Resource Conservation and Recovery Act ("RCRA"). SMA is a North American Steel trade group representing the interests of 52 steel companies, 43 of which are in the United States. In 1990, SMA member companies produced approximately one-third of all U.S. steel products. Most of the members of SMA are identified as market mills or mini mills. These mills melt scrap metal in electric arc furnaces ("EAFs") to produce various carbon steel products.

Each year the steel industry recycles more than 100 billion pounds of secondary steel materials including shredded automobiles, discarded appliances and cans, as well as recirculated scrap generated within the steel industry. A significant quanti-

ty of recycled scrap contains relatively small concentrations of zinc, lead and cadmium. Although zinc, cadmium and lead are used to provide certain types of steel with corrosion-resistant properties, these metals are not useful ingredients in most grades of carbon steel. Instead, the cadmium, lead and zinc in recycled scrap metal are emitted from steelmaking furnaces in the form of EAF dust which is captured by hoods and collected in emission control baghouses. The collected EAF dust is regulated by EPA as K061, a hazardous waste. Each year, approximately 500,000 tons of EAF dust or K061 are generated by steel companies in the United States. The vast majority of K061 generated in the U.S. is currently recycled by the Horsehead Resources Development Company ("HRD") by high temperature metals recovery ("HTMR") of zinc, lead, and cadmium.

The steel manufacturing industry provides an invaluable environmental service by recycling scrap metal into valuable steel products and producing metal rich emission control dusts that are processed to recover lead, cadmium, and zinc. It is critical that Congress refrain from imposing additional regulations that would break the effective chain of steel recycling and result in the wasteful land disposal of valuable scrap metal or zinc rich EAF dusts.

**I. THE RECYCLING OF METAL RICH SECONDARY MATERIALS SHOULD BE REGULATED LIKE COMPARABLE METAL PRODUCTION PROCESSES USING PRIMARY MATERIALS AND NOT LIKE WASTE TREATMENT**

**A. Recycled Scrap Metal**

Recycled scrap metal is currently exempt from regulation as a hazardous waste. 40 CFR §261.6(a)(3). This exemption is based on the Environmental Protection Agency's ("EPA's" or "the Agency's") recognition that recycled scrap metal is an effective substitute for virgin ore and does not pose a threat to human health and the environment.

S. 982 includes within the definition of a regulated "solid waste" all material that is discarded or recycled, except if recycled as part of a closed loop process or a direct reuse manufacturing process. This broad definition of "solid waste" would include recycled scrap. Similarly, S. 976 would define recycled "hazardous secondary materials" as "hazardous wastes." S. 976 would require EPA to establish new recycling regulations that would effectively supplant the current regulatory exemption for recycled scrap metal. Consequently, any recycled scrap metal that exhibits a hazardous characteristic (such as toxicity for lead, cadmium or benzene) would become subject to hazardous waste regulation under S. 982 or S. 976. This would mean that scrap yards could become subject to hazardous waste storage and transportation requirements and steel manufacturers that recycle scrap could become regulated as hazardous waste storage and treatment facilities. The significant increased costs associated with recycling scrap metal that was regulated as a hazardous waste would induce steel manufacturers to refuse some scrap in favor of virgin materials.

If environmental regulations are adopted that thwart the recycling of scrap metal, the environmental consequences would be disastrous. This is because the 100 billion pounds of scrap metal that is currently recycled (which is equivalent in weight to nine million cars) would be landfilled or abandoned. This would result in an increased demand for scarce landfill space as well as an increase in mining operations that are detrimental to the environment. Consequently, it is critical that recycled scrap metal not become regulated as a hazardous waste.

**B. Recycled EAF Dusts**

As several SMA companies indicated in letters expressing their intent to participate in EPA's 33/50 industrial toxics project ("ITP"),<sup>1</sup> the ability of electric furnace steel producers to recycle their hazardous wastes is almost entirely dependent on the continued viability of the HTMR recycling of EAF dusts. Operations that thermally recycle EAF dusts closely resemble and effectively compete with smelting operations that extract zinc, lead, and cadmium from virgin ore. If the additional environmental compliance costs imposed on recyclers of EAF dusts exceed costs incurred by processing virgin ores, the effective thermal recycling of EAF dusts will no longer be cost competitive. Such prohibitively expensive compliance costs would result if HRD and other recyclers of EAF dusts had to comply with the burdensome operating standards and permitting requirements currently applicable to hazardous waste treatment and disposal facilities.

<sup>1</sup> Pursuant to EPA's request, these SMA companies have voluntarily agreed to reduce by 50 percent their emissions of certain targeted pollutants.

Although they are different in their approach, both S. 976 and S. 982 would regulate industrial recycling as a subcategory of waste management. This approach rests on the mistaken premise that an operation which reclaims hazardous materials presents the same environmental risks as hazardous waste treatment/disposal. Instead, recycling operations that recover metals from secondary materials should be regulated like comparable metal production processes using primary materials as feedstocks.

## II. THE "DERIVED FROM" RULE SHOULD NOT BLINDLY APPLY TO RESIDUES GENERATED FROM THE RECYCLING OF LISTED HAZARDOUS WASTES

Currently, wastes derived from the treatment of listed hazardous wastes continue to be regulated as hazardous wastes. S. 976 would expand the scope of this "derived from" rule to all slags or residues generated from the "recycling" of listed hazardous wastes. This blind application of the derived from rule fails to recognize that recycling removes and recovers many of the metals or other ingredients responsible for the original listing of the feedstock materials as a hazardous waste and typically neutralizes the potential for any remaining contaminants to leach. For example, the recycling of EAF dusts through metal recovery generates an iron-rich slag which is virtually inert and is sold and effectively used in cement production, as an aggregate product or as an antiskid product. If companies that recycle K061 must store and dispose HTMR slag as "derived from" hazardous wastes, then the thermal recycling of EAF dusts will become so expensive that it will no longer be economically viable. Consequently, the 500,000 tons of metal rich EAF dusts that are currently recycled by HTMR would instead be stabilized (doubling or tripling their volume) and landfilled. This may be good business for waste treatment companies, but it does not make good environmental sense. The resulting loss of recycled metals and aggregate product would also increase the mining of virgin materials and thereby contradict a primary purpose of RCRA which is resource conservation and recovery.

SMA recommends that RCRA reauthorization legislation establish a de minimis "safe" level for hazardous waste constituents, below which the "derived from" rule would no longer apply. Alternatively, residues generated in furnaces that recycle secondary materials solely for metals recovery and therefore closely resemble production processes should be exempt from the application of the "derived from" rule.

## III. CORRECTIVE ACTION REQUIREMENTS SHOULD BE BASED ON THE POTENTIAL FOR INDUSTRIAL CONTAMINATION AT THE FACILITY BOUNDARY

S. 976 would include corrective action within the standards for recycling. Because the recycling requirements "shall protect human health and the environment to the same degree as the requirements that are applicable to the transfer, storage, or disposal of hazardous waste," it appears that the legislation contemplates a corrective action scheme identical to that established under RCRA section 3004(u). Section 3004(u) requires that every person seeking a permit under Subtitle C take corrective action for all releases of hazardous waste or constituents from any solid waste treatment, storage, or disposal facility. In its proposed regulations for corrective action, EPA appears to favor a point of compliance at the boundary of each solid waste management unit ("SWMU") at a facility. However, human health and the environment can be protected by meeting ground water standards at the property boundary of the entire facility, rather than at each unit boundary. The significantly higher costs of meeting ground water standards at each unit boundary does not provide a proportionately higher degree of protection than regulation at the facility boundary. Consequently, corrective action requirements should not impose unnecessary and costly requirements at each SWMU within the facility.

## IV. FLEXIBLE FINANCIAL ASSURANCE MECHANISMS SHOULD BE DEVELOPED FOR THE RCRA CORRECTIVE ACTION PROGRAM RATHER THAN USING THE CLOSURE AND POST-CLOSURE CARE MECHANISMS

EPA's proposed corrective action regulations raise a second issue concerning financial assurance. Under these regulations, companies must provide financial assurance for the costs of performing corrective action. It is likely that the financial assurance mechanisms that will be used for corrective action are identical to those set forth in 40 CFR Parts 264 and 265 for closure and post-closure care. This scheme would not be appropriate for corrective action primarily because costs associated with corrective action are considerably greater than those for closure and post-closure care. Inflexible financial assurance requirements for corrective action could deplete a company's existing funds and thus threaten the availability of funds for closure and post-closure care. Consequently, new financial assurance requirements that



provide a flexible means to demonstrate financial assurance should be developed for the RCRA corrective action program.

#### V. USED OIL SHOULD NOT BE REGULATED AS A HAZARDOUS WASTE

Because oil is widely used as a lubricant in steel plant operations, used oil is present in many wastes and recyclable materials produced by steel plants. If used oil were listed as a hazardous waste, millions of tons of otherwise non-hazardous materials in the steel industry, including ferrous scrap, wastewater treatment plant sludges, wastewater, and mill scale would be classified as hazardous wastes under EPA's "mixture rule".<sup>2</sup> Classification of these materials as hazardous wastes would create tremendous waste management problems for the steel industry and add needless operating costs. Furthermore, the classification of used oils as a hazardous waste would discourage or inhibit the beneficial recycling of used oils and other materials that contain incidental quantities of used oils.

S. 976 appropriately does not list used oil as a hazardous waste. Those oils that exhibit a hazardous characteristic or are used as fuels and fail to meet used oil specifications are effectively regulated under existing requirements. EPA has recently proposed comprehensive regulations governing used oil recycling. Congress should allow EPA to complete this important used oil rulemaking under the existing RCRA authority.

In reauthorizing RCRA, Congress should create incentives to recycling metal rich secondary materials generated or processed by the steel manufacturing industry. Otherwise, these valuable secondary materials will have to be disposed filling up scarce landfill space and increasing mining operations that are detrimental to the environment.

SMA appreciates the opportunity to submit written testimony. Please contact us if you have any questions or concerns.

Sincerely,

JOHN L. WITTENBORN  
WILLIAM M. GUERRY, JR.

#### STATEMENT OF WHIRLPOOL CORPORATION

Whirlpool Corporation, the world's largest manufacturer of major home appliances has comments and concerns regarding the Resource Conservation and Recovery Act Amendments of 1991 (S. 976). We are a company with facilities in 24 countries, and we distribute our products to over 90 countries. In the U.S., we have 10 manufacturing facilities in 7 States.

At the outset, we would like to state our support for the broad goals of existing solid/hazardous waste regulation. We also support the intent of these RCRA amendments. However, we question the need for a number of provisions contained in this draft legislation.

Our specific concerns are as follows:

##### *Surveys [Section 5008(a)(1)]*

This section would require that the Administrator (EPA) survey a representative sample of hazardous waste generators to determine the nature and extent of hazardous substances use, production, and consumption. It would also be used to determine toxics use, source reduction, and planning.

In spite of provisions in this section, to "avoid duplication of data" the EPA is currently receiving (or will receive) much or all of this information under current provisions of existing law. We request that this section be deleted.

##### *Generator Toxics Use and Source Reduction Plan [Section 5008 (c)]*

This section requires those reporting under section 313 (of the Emergency Planning and Community Right-To-Know Act) to prepare and submit toxics use and source reduction plans. The "quantification of the amounts and types of hazardous substances manufactured, processed or otherwise used for each production unit, and the quantity of solid and hazardous waste generated" [Section 5008(c)(3)(D)] would be a part of such new reports/plans. We submit that these new reporting burdens are either redundant or unnecessary. They are redundant because the Toxic Release Inventory Report and the Biennial Report already contain much of this information. Other information is unnecessary. The reporting of hazardous materials "processed

<sup>2</sup> The mixture rule designates a solid waste as hazardous if it is a mixture of a solid waste and one or more listed hazardous wastes.

or otherwise used" should not be a concern, if such materials do not enter the environment. Often, a hazardous material, once placed on a unit, becomes inert (i.e., paint). Reporting "used" hazardous waste materials, that are integral to new consumer products and pose no environmental or health hazard, is counterproductive to the intended purposes of this legislation. As such, we request that this section be stricken.

*Numerical Goals and Training [Sections 5008(c)(3) (E) and (F)]*

The two- to five-year numerical goals will pose some difficulty. First, they will be difficult to establish, since technologies and processes vary widely from industry to industry. Second, even within a given industry, there will be wide diversity in the source reduction practices. Thus, establishing a "goal" for all to achieve will penalize those with long-standing, active source reduction programs, and reward those with loss proactive programs. Because of the competitive nature of today's market, it is in every industry's bent interest to promote active source reduction programs. However, because of the very specialized nature of each industry, and even each company, we submit that source reduction goals can be accomplished through broad Federal guidelines, not through mandatory planning, reports, goals, and training.

*Performance Reports/Records/Modifications [Sections 5008 (d) (f) and (g)]*

These sections relate to performance reporting of toxics use and source reduction activities. Increased recordkeeping, increased vulnerability to wide public dissemination of performance plans, and the potential for EPA regulatory action relating to well intended industries who fail to meet planning goals are among the negative impacts on those saddled with these new burdens. Although we actively promote source reduction planning within our own company, we again suggest that the Administrator should best achieve such performance planning objectives through voluntary guidelines, and not through counterproductive and mandatory reporting rules. The information about our reduction performance is available through Form R and the Biennial Report. As such, we request that these sections be stricken, or modified to reflect a planning "guideline."

*Products and Packaging Advisory Board [Section 5009]*

We have two suggestions for improving this section. First, the composition of the Products and Packaging Advisory Board [Section 5009(a)(1)] should include a broader representation of "individuals with expertise in packaging and product design." No single person (as represented in the current bill) can have enough "real world" product and packaging knowledge to fairly represent the many products/packaging design needs. At least three or four such individuals (from food, pharmaceutical, industrial and consumer durables) should be considered as additional members of the Board.

Second, we submit that the term "standards" should be changed to "guidelines" in section 5009(b)(3)(B). This is necessary to stay consistent with the term "voluntary" which is used later in this section.

*Pollution Prevention Projects [Section 9003(b)(2)]*

The addition of the phrase "or threatened release" broadens the scope of the Solid Waste Disposal Act. It is very subjective and open to interpretation. Also, it would seem to provide a carte blanche for future EPA actions with no Agency guidelines as to the relative dangers that such "threatened releases" pose to human health or the environment. We request that this amendment be stricken.

SUMMARY

Whirlpool Corporation has a long history of environmental stewardship. We fully support the goals of RCA. We have active, voluntary programs relating to waste minimization, source reduction planning, and overall compliance assurance. However, we request that sections pertaining to source reduction surveys, source reduction reporting, and performance reporting be removed from S. 976. These new paperwork burdens are redundant, unnecessary and counterproductive. Our environmental engineers already spend 23 percent of their time completing mandatory government reports. This time could be much better spent working on new projects to minimize waste or recover process materials.

Moreover, we request that our other suggestions relating to the Products and Packaging Advisory Board "threatened releases," and packaging "guidelines" also be adopted. cumulatively, the adoption of all our recommendations will somewhat simplify and streamline this bill. The bottom line for Whirlpool, and America's in-

dustries, will be more productive use of scarce resources to promote environmental priorities in an increasingly competitive world.  
Thank you for the opportunity to comment.

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