



*promoting responsible environmental,
health, and safety decision making*

**Strategic Planning Committee
Draft Discussion Piece
October 29, 1998**

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The following are potential recommendations for projects to be commented upon by the Strategic Planning Committee. These projects are divided in to two sections. The first section are recommended workshops and/or conferences, divided by environmental, health & safety topics. The second section are non-workshop and/or conference projects.

Proposed Conferences/Workshops

Environmental

- I. Acid Rain. Is acid rain still a problem in the Eastern United States? What are the long-term ecological, economic, social, and political effects of acid precipitation? How did the political system respond to previous predictions from scientists about acid rain? Were those predictions correct?

Estimated time to complete the project: 90 days
Target audience: Members of Congress, the media
Estimated cost: \$75,000

- II. Clean Air

In 1998, the Center held a conference in DC on the Clean Air Act. Several of the speakers suggested that the requirements for the U.S. Environmental Protection Agency's Clean Air Science Advisory Committee (CASAC) is required to study pollutants needs to be changed or updated. Also, there was considerable discussion on the role of economics and how it should be used in the Clean Air Act. As a follow-up to that conference, the Center would hold a workshop, inviting individuals such as CASAC Chair Joe Mauderly, Health Effects Institute President Dan Greenbaum, Resources for the Future President Paul Portney, and American Enterprise Inst./Brookings Institute Director Robert Hahn to discuss and make recommendations on how the Clean Air Act could be changed to make it protect human health in a more efficient manner.

Estimated time to complete the project: 90 days
Target audience: Members of Congress, Governors, the media
Estimated cost: \$75,000

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III. Climate Change

A. Update on Science. The purpose of this workshop is to give policy-makers and the public a non-biased snapshot of the science surrounding this issue at this point in time. The Center seeks to highlight what we know, what we do not now know, and where we believe additional research is needed.

The workshop will be held over a 2-3 day period. The end product of the workshop will be a consensus document to be sent to Members of Congress, Governors, and the media.

Participants will include earth scientists (geologists, oceanographers, climatologists, glaciologists, and botanists), economists, geographers, anthropologists, demographers, technical (energy, resource) experts, historians, and policy analysts. The Center's Chairman, Harrison Schmitt, Ph.D., former Apollo 17 astronaut and United States Senator, will chair this workshop and serve as spokesperson for the final report.

This workshop would produce a proceedings document, not a consensus document.

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, and the media

Estimated cost: \$175,000

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Proposed Climate Change Workshop

The Annapolis Center, an independent national 501(c)3 non-profit organization that supports and promotes responsible environmental, health, and safety decision-making, is seeking support for its 1999 Proposed Climate Change Workshop.

The goal of the workshops is to provide independent, non-biased analysis to policy-makers, the media, and the public on our current state of knowledge. The workshops will facilitate informed decision-making at a national level about these related issues.

The Center brings scientists and economists together from varied disciplines and points of views for two-day sessions. The product is a consensus document that is released at a news conference at the National Press Club and distributed to Members of Congress, the governors, and the media. Typically, the Center sends its reports to over 2,000 members of the media. Stories related to the Center's 1997 climate change report ran in 912 newspapers, with a readership of 43,602,944.


The Annapolis Center's Mission

The Annapolis Center supports and promotes responsible environmental, health, and safety decision-making. The Center evaluates risk and cost-benefit analysis both to assist the public in understanding hazards and the relative risks they may present and to identify areas for emphasis in research and policy. The Center's Annapolis Accords provide vehicles to evaluate the quality of science underlying risk analysis and the quality of the policy foundation supporting risk management, as well as cost-benefit analysis.

History

In its short five-year history, the Center has been acclaimed by decision-makers for its products that are making an impact on public policy decision-making. These include accords for risk and cost-benefit analysis resulting from sponsored dialogues between noted scientists, economists, and academicians. Additional accords are underway for both epidemiology and toxicology data and information.

Mr. Larry Dye, Analyst to the United States Senate Budget Committee, commented on the Center's 1997 climate change report, "Policy-makers and their staffs are often frustrated by conflicting scientific reports. One week, we will have scientists point to one side of an issue and following week, equally credible scientists will brief us, giving an exact opposite viewpoint. The Annapolis Center's Climate Change report helped put the issue in perspective the best of any document I have seen."

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1999 Proposed Climate Change Workshop

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Need

In 1997, The Annapolis Center held a workshop to review the science and economics on the climate change issue. This year, the Center will release the results of its July 1998 workshop on climate change's potential human health effects. In 1999, the Center proposes a review of the sciences that affect climate change and the uncertainties of those sciences on climate change.

1999 Climate Model Workshop Proposal

Practitioners of many sub-disciplines believe that their respective areas of study are the determinate factor affecting climate change. The Center will hold a workshop that will invite scientists from different sub-disciplines to make presentations on how issues in their areas of study affect climate variability. Attendees would also discuss their perceptions on how well climate change models handle their sub-disciplines.

As Dr. Prinn of MIT has stated, "a wide range of plausible forecasts exists for the magnitude of responses due to the greenhouse effect. Better forecasts will require improvements in the following areas: oceanic, aerosol, cloud, and glacial processes, chaos and predictability."

Participants will include earth scientists (geologists, oceanographers, climatologists, glaciologists, and botanists), economists, geographers, anthropologists, demographers, technical (energy, resource) experts, historians, and policy analysts. The participants would be asked to discuss the state of knowledge and certainty in their respective areas, and how well models reflect this information.

The Center's Chairman Emeritus, Harrison Schmitt, Ph.D., former Apollo 17 astronaut and United States Senator, will chair this workshop and serve as spokesperson for the final report.

This workshop would produce a proceedings document, not necessarily a consensus document.

Budget

The budget for the workshops is \$180,000. This includes:

- Participants (24) costs (honorarium, travel, lodging and meals)
- Report costs (drafting, publication and mailing)
- Press (press conference release at the National Press Club, preparation and mailing of press releases)

10/98

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B. Climate Change: Potential Effects on Weather. Proponents of enhanced climate change suggest that the world will be subject to more frequent violent storms as a result in rapid global warming. Are the weather patterns we have witnessed over the past decade the harbinger of enhanced climate change, or are they part of the earth's normal weather cycles?

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, meteorologists, and the media

Estimated cost: \$75,000

- IV. Desertification. Is the Central Plains area of the United States undergoing a desertification process as predicted by some scientists? If so, what are the proper responses to that change?

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, Governors and State legislators, the media

Estimated cost: \$75,000

- V. Endangered Species. What are the costs and benefits of saving individual species of plants and animals?

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, Governors and State legislators, the media

Estimated cost: \$75,000

- VI. Fishing. Why has the Barndoor Skate nearly disappeared from the Grand Banks fishing area? What are the economic, social, political, and scientific consequences, if any?

Estimated time to complete the project: 90 days

Target audience: NE Members of Congress, NE congressional staff, NE Governors and NE State legislators, the media

Estimated cost: \$75,000

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VII. Genetic Engineering.

- Should genetically engineered microorganisms be released in to the environment for agricultural use?
- Should animals and plants be modified genetically (using modern genetic engineering techniques) for greater productivity? If so, what are the limits of those techniques?

Estimated time to complete the project: 90 days

Target audience: Members of Congress & congressional staffs, the media

Estimated cost: \$75,000

VIII. Recycling/Incineration/Landfills. The purpose would be to conduct an “agenda-free” analysis of recycling by examining residential and industrial recycling practices and data in order to produce an educational tool characterizing the state of recycling for use by those driving the recycling industry, such as state and county governments. The program would address both municipal and industrial recycling and such topics as:

- the role of secondary materials in industry and households,
- what types of materials being recycled have a supporting market so that the benefit of recycling outweighs the cost,
- what could be done to make reuse and recycling more effective,
- how much of a health risk does incineration pose, and,
- how much of a human risk are landfills?

IX. Introduction/Eradication of Species. To what extent should mankind attempt to introduce new species, or eradicate supposedly harmful species from a certain geographic location? (For example, the Zebra mussel in the Great Lakes.)

Estimated time to complete the project: 90 days

Target audience: Members of Congress & congressional staff, Governors and State legislators, the media

Estimated cost: \$75,000

X. Water. Is the world running out of potable water? Or, is the true problem potable water distribution?

Estimated time to complete the project: 90 days

Target audience: Members of Congress & congressional staff, Governors and State legislators, the media (including international press)

Estimated cost: \$75,000

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- XI. Wetlands as Natural Treatment Sites for Sewage and Toxic Wastes. Wetlands have increasingly been used to treat city sewage and toxic wastes. How effective are wetlands in these processes?

Estimated time to complete the project: 90 days

Target audience: Members of Congress & congressional staff, Governors and State legislators, the media

Estimated cost: \$75,000

Health

- I. Children's Health. The following is a multi-phase approach by The Annapolis Center to begin a discussion on the issues of comparative risks and children's health. This project would allow us to address this issue and would help educate policy-makers and members of the media.

Phase One: Polling. Every day, Americans are confronted by information on an alleged hazard that poses real risk to their children. Often, these announcements are made from advocacy organizations or government agencies, potentially with political agendas.

But what really does pose the most risks to children? The Annapolis Center will survey pediatricians and emergency room doctors for their perspectives on what they find poses the most risks for children.

Estimated time to complete the project: 60 days

Target audience: Members of Congress, congressional staff, the media

Estimated cost: \$45,000

The results of the polling would be released at the conference described in Phase Two.

Phase Two: Conference. The Annapolis Center will hold a conference entitled "Comparative Risks and Children's Health". The purpose of this conference is to collect information on the issue from diverse perspectives. Children's health advocates from a variety of arenas (e.g. the Children's Defense Fund, Natural Resources Defense Council, Chemical Manufacturer's Association) and organizations studying the issue, such as the Harvard Center for Risk Analysis, would be invited to discuss sources of risk to children's health. The discussion and interplay between those focusing on nutrition access to health care, poverty, violence and environmental hazards should be most interesting.

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Each speaker will be asked to give a 30-45 minute presentation, describing one or more hazards. They will also be asked to discuss the relative risk of the hazards they describe.

This conference would be open to the press and Capital Hill staff. The Center would charge a registration fee for all others to attend.

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, Governors and State legislators, the media

Estimated cost: \$35,000

Phase Three: Workshop. Away from the spotlights of the public, the Annapolis Center will hold a workshop where the potential threats to children, as discussed in the conference described in Phase Two, would be compared and prioritized. The result of this phase would be a consensus document that would be sent to Members of Congress, Executive Branch members, members of the media, and governors.

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, Governors and State legislators, the media

Estimated cost: \$75,000

- II. Chlorine safety/risk. (Endocrine disrupters.) Should chlorine be banned, or does its uses out-weigh its potential risks?

Estimated time to complete the project: 90 days

Target audience: Members of Congress & congressional staff, the media

Estimated cost: \$75,000

- III. Extremely Low Fields (ELF) and Radiofrequency (RF). Recent risk communications on health issues associated with exposure to extremely low fields (ELF) electric and magnetic fields from power lines and radiofrequency (RF) electromagnetic energy from radio telecommunications facilities have presented data from certain studies as relevant or significant that critics charge did not support the claims communicated. The Center would hold a workshop to address the issue and recommend how better to communicate the science in its totality; especially how to deal with misreported results and results of poorly designed studies.

Estimated time to complete the project: 90 days

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Target audience: Members of Congress, congressional staff, Governors and State legislators, the media
Estimated cost: \$75,000

- IV. FDA Process. Is the FDA overly cautious in its approval of drugs, especially when the patient has a life-threatening disease?

Estimated time to complete the project: 90 days
Target audience: Members of Congress, congressional staff, Governors and State legislators, the media
Estimated cost: \$75,000

- V. Irradiation of Foods. Even though irradiation of foods has occurred in a limited manner, the public is very skeptical of this process.

Estimated time to complete the project: 90 days
Target audience: Members of Congress, congressional staff, Governors and State legislators, the media
Estimated cost: \$75,000

- VI. Toxicology

Relatively few Americans possess the analytical training or knowledge to question the validity of scientific research methods and data related to risk. This inability to judge the quality of scientific studies can create panic, especially when the first exposure an American has to an alleged environmental, health or safety hazard often comes from an alarmist headline in the newspaper or on a radio or television "sound-bite."

Public opinion on scientific issues is frequently quite different than that of scientists. (For example, whereas most of the public rate the relative risk from a hazardous waste site as quite high, most scientists would rate such risk reasonable low.) Because a statistical association exists between an alleged hazard and an adverse outcome, the hazard does not necessarily pose enough of a threat that drastic action must occur. Americans need the necessary tools to make informed decisions on the validity of scientific evidence and on the level and priority of risk posed by a given hazard.

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The Annapolis Center proposes to continue a multi-phased series of science panels, papers and conferences designed to educate public-opinion leaders, the media, and the general public on the nature of the quality of the science and the public perceptions related to risk. The Annapolis Center proposes:

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- to create a bibliography which will examine the literature on (1) the design, and (2) interpretation of toxicological studies;
- to convene a science panel from a variety of disciplines to discuss the standards for and the appropriate application of toxicological studies to regulatory and legislative decision-making;
- a series of programs in one or two states (probably California and Michigan) to review state regulations and update them on the basis of *The Annapolis Accords for Risk Analysis*, *The Annapolis Accords for Benefit/Cost Analysis*, and the accords of the workshops cited in this proposal.

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(1.) A Literature Search/Bibliography. Animal studies have provoked much attention in the United States and throughout the world. To many, animal exposure studies take a theory to a living animal, which can demonstrate a pathway for causation. But others point to the fact that animal studies may not be valid due to the different natures of each species. (Criticism has also been raised as to the welfare and treatment of animals, which is a whole different issue.)

To gain a point of context, The Annapolis Center will conduct a literature search in mid 1998 that will focus on (1) how such studies are designed and implemented, and, (2) how such studies should be interpreted by decision-makers and the general public.

Estimated cost: \$10,000

(2.) Toxicologic Tests. Animal testing has had a huge impact on the American health and safety regulatory regime. Federal laws, such as the Delaney Clause, were created with animal testing as being the basis for perceived risks to humans. Yet, how reliable are these tests? In what context should they be used? What are their strengths and/or weaknesses, if any? The Annapolis Center will hold a workshop to sort out recommendations, or accords, to these and other questions.

This phase will gather experts from a variety of disciplines who perform or use toxicological studies. These experts will be asked to develop consensus standards for toxicological standards and to discuss appropriate application of such studies to regulatory and legislative decision-making. The anticipated outcome would be a proceeding's report summarizing the issues examined during the workshop. If a

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The Use of Toxicological Studies for Regulatory and Legislative Decision-making

Can toxicological studies ever establish absolute safety? What are the factors that relate to the ability to determine absolute safety?


What are the differences between the concepts of "absolute safety" and "reasonable certainty of no harm under conditions of use"? How can we help the public and decision-makers understand the differences?

What is the basis for the use of dose-response in toxicological studies to help establish reasonable certainty of 'no harm'? What is the nature of the dose-response relationship at low doses, intermediate doses and high doses?

How do models assist the interpretation of toxicological studies for decisions about reasonable certainty of no harm? What is the nature and basis for such models? Specifically, can the models provide a basis for extrapolation from one susceptible population to another?

Can the following general principles be defended and, if so, what standards should apply to the applicable toxicological studies?

1. Most substances contacting or entering the body will be injurious at some degree of exposure, and will be tolerated without effect at some lower exposure.
2. The nature of the injuries that may develop in humans can be determined by the study of the reactions of experimental animals.
3. For most substances it is possible to define an exposure of animals, which has no observed effect upon their health.
4. From the results of experimental animals one can reasonably estimate the degree of exposure which will be without effect upon humans.

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The Use of Toxicological Studies for Regulatory and Legislative Decision-making Draft Agenda

DAY 1

- 8:30-9:00 Continental breakfast.
- 9:00-9:30 Welcome and review of workshop objectives.
- 9:30-10:00 Introductions
- 10:00-12:30 First Session
- a) Absolute safety versus reasonable certainty of no harm under normal use conditions. How can we help the public and decision-makers understand the difference?
 - b) What is the basis for the use of dose-response in toxicological studies to help establish reasonable certainty of no harm?
- 12:30-1:30 Lunch
- 1:30-3.30 Second Session
- What is the nature of the dose-response relationship at low, intermediate and high doses?
- a) essential vs. nonessential elements,
 - b) hormesis and homeostasis,
 - c) species specific susceptibility
- 3:30-3:45 Break
- 3:45-5:45 Third Session: Models
- How do models assist in the interpretation of toxicological studies for decisions about reasonable certainty of no harm?
- What are the nature and basis of such models? Can the models provide a Basis for extrapolation from one susceptible population to another?
- 6:00 Reception and Dinner

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The Use of Toxicological Studies for Regulatory and Legislative Decision-making

Draft Agenda

Page Two

Day 2

8:00-8:30 Continental breakfast

8:30-9:00 Review of yesterdays discussion

9:00-10:30 Fourth Session: General principles
Can the following general principles be defended and if so, what standards should apply to the appropriate toxicologic studies?

1. Most substances entering the body will be injurious at some degree of exposure and will be tolerated without effect at lower exposures.
2. The nature of injuries that may develop in humans can be determined by the study of reactions in experimental animals.
3. For most substances it is possible to define an exposure in animals which has no effect on their health.
4. From the results in experimental animals one can reasonably estimate the degree of exposure which will be without effect in humans.

12:15-1:00 Lunch

1:00-2:30 Summary

2:30 Adjourn

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Safety

- I. Ergonomics. Muscular skeletal injuries regulations are due out soon. Have they been based on adequate science?
- II. Food Safety. How does the US system for food safety differ than other countries?

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, Governors and State legislators, the media

Estimated cost: \$75,000

- III. Indoor Air Quality. OSHA and EPA are looking at indoor air quality standards.

Estimated time to complete the project: 90 days

Target audience: Members of Congress, congressional staff, Governors and State legislators, the media

Estimated cost: \$75,000

Non-Conference/Workshop Projects

- I. Benefit/Cost Analysis and Protection White Paper – Many different groups are criticizing EPA and other government agencies for their benefit/cost analysis process in the regulatory arena. However, these analyses are also conducted in cleanup of hazardous waste and in environmental impact assessments. The center would develop a report by applying the new criticisms of the process to the benefit cost screening that is often applied during an engineering evaluation/cost analysis (EE/CA) or feasibility study (FS) to see how they stand up to the criticisms.
- II. Children's Health Link – Many government agencies are conducting studies of various agents' impacts on children's health (i.e., lead studies on Medicare children). Is this information being compiled anywhere and being made available for use in environmental health and safety decision making? If not, an information transfer system (web page, email, training – whatever) could be developed and implemented by a non-profit to accomplish this goal. Again, funding source would be a domestic or international govt. grant and maybe a health care organization or large commercial hospital.

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III. Climate Change: Information Gathering Program. One of the greatest, untapped reservoirs of information concerning global climate change, natural or otherwise, lies in existing archives of weather, ocean, and biosphere observations made by many governmental and private entities during the past three centuries. Examples of such archives are naval records of ship observations of ocean and atmospheric temperatures and ocean salinity, aircraft records of atmospheric temperatures and water content, agricultural records of soil moisture and stream flows, and hydrological measurements of ground water temperatures. Technological advances also are making possible increasingly imaginative investigations of the prehistoric geographic and anthropological record of climate-related change, including the following:

- ice cores,
- sea and lake sediments,
- ground water effects, and,
- human habitation cycles.

The benefits of analyzing this valuable data lie in a full understanding of the climate trends that have led up to today and a better understanding of the nature and cause(s) of past climate changes.

Unfortunately, limited funding exists for projects leading to the discovery, investigation, user-friendly formatting, and analysis of such historic and prehistoric records of climate. This void was made evident during a recent workshop by The Annapolis Center on global climate change, which included the participation by leading scientists and economists from across the country.

In its continuing effort to assist policy-makers on matters related specifically to climate change (as evident by its recently released report), the Center proposes to fund a bi-annual, peer-reviewed grant program for graduate and post-graduate research on historical and prehistoric climate change records.

This grant program, The Annapolis Climate Record Program (ACRP), will provide each grantee with a minimum of \$20,000 per year for three years if selected by an independent peer-review panel. Reviews of progress will be held after each year's work and continuation beyond three years will be based on the peer review panel's judgment.

The ACRP will include the establishment of an electronic, standardized format, the Climate Record Archive (CRA), through which ACRP funded research results and reformulated climate records will be accessible to other researchers and policy-makers via the Internet. An electronic and Climate Record Newsletter will be used to alert interested parties to the program's funded research.

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Grant proposals for ACRP funding would be expected to include identification of the targeted archive or pre-historic record, authentication of the nature of the contained data, a plan and schedule of research, and a detailed statement of the background and qualifications of the proposer and advisors thereto.

BUDGET

	1999	2000	2001
Grants	80,000 (2 new)	130,000 (5 new)	230,000
Peer Review	10,000	10,000	20,000
Archiving	45,000	25,000	25,000
Newsletter	12,000	12,000	12,000
Administrative	25,000	30,000	35,000
Total	172,000	217,000	312,000

- IV. Expert Witness Program. The Annapolis Center is working with General Counsels of major organizations to determine if there is a role for the Center in assisting judges in determining which scientific and/or economic studies are valid and which are not.
- V. Informational Clearinghouse. There are numerous studies and articles written about environmental, health, and/or safety risks. Many of these articles appear in journals such as *Science*, the *New York University Environmental Law Journal*, *JAMA*, *Nature*, and *Scientific America*. Similarly, organizations such as the Harvard Center for Risk Analysis, the National Academies of Science and the Center for the Study of American Business publish numerous studies on risk-related topics. It is difficult for those interested in public policy-making to be aware of, let alone keep up with these works.

The Annapolis Center seeks to become the major clearinghouse for risk-related issues. To this end, the Center will initiate 3 steps to solve the problem listed above:

- Phase I: Republishing of articles through the Center's newsletter. The Center will publish summaries or abstracts of articles and/or studies in its newsletter. The newsletter would become a monthly publication. Readers would be informed how they could obtain the full article or study. In addition to members and sponsors of the Center, the newsletter will be sent to Members of Congress, governors, and selected members of the press.

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- Phase II: Republishing of articles through the Center's homepage on the Worldwide Web. The Center will post summaries or abstracts of articles and/or studies through a link to its homepage on the Worldwide Web. The Website would be updated on a monthly basis. Again, readers would be informed how they could obtain the full article or study.
- Phase III: Fact Sheets Summaries. Staff on Capitol Hill need to read something that is short and concise. The Center will digest the articles in to 2-3 paragraph summaries for Capitol Hill staffers.

Phases I, II & III: First quarter of 1999

		Costs
Phase I	\$40,000	(having a consultant perform review the magazines, etc., newsletter production and mailing costs)
Phase II	\$ 9,000	(modification/and maintenance of Webpage)
Phase IV	\$20,000	(labor to create and mail factsheets)
Total	\$69,000	

- VI. Establish an Innovative Environmental Health and Safety Technology Grant Seeking Assistance Center – Federal legislation is being circulated to double federal R&D spending. It is based on a recommendation of a panel of industrialists and university presidents. Other government agencies (i.e., NASA and DOE) are already starting to do this. The project would be to have The Annapolis Center develop an assistance program to help innovators identify grant money that may be available to them. The Annapolis Center could evaluate the use of Federal grant dollars to develop innovation techs., and even offer grant writing training and help innovators connect with grant givers through conferences and other opportunities
- VII. Living With Risk Education Program. The Annapolis Center believes that there exists an opportunity for an education program that delivers science-based risk analysis materials for middle school children. This material would be made available online over the Internet.

The Annapolis Center seeks \$20,000 to research existing materials (if any) and develop its own program. Specifically, the Center proposes updating its existing "Living With Risk" materials by:

- Current, high profile examples of risk analysis;
- Emphasis on cross-disciplinary nature of risk analysis;
- Touch on statistics and probability, medicine, physiology, chemistry, and ecology as well;

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- Inclusions of day-to-day risk analysis, i.e., EMF, chances of inheriting a particular disease, etc.

The Annapolis Center proposes to do the following:

- Research available risk assessment curricula for middle schoolers; including teacher interviews. All research will be developed in to a compilation of findings.
- Draft a new "*Living With Risk*" proposal. Costs would include a first draft, rewrite and minor revisions to second draft, with The Earth Generation and The Annapolis Center providing an updated timeline, implementation plan, and budget to be incorporated into final draft.
- Desktop final draft, including artwork and design, to refresh and update the overall look of the proposal.

Estimated time for completion of this draft would be six weeks.

- VIII. Personal Risk on The Annapolis Center's Webpage. This project would create a decision-tree type of analysis of a person's potential health risks on the Center's Webpage. The user would click through a list of personal and environmental factors that would educate the user.

Estimated time to complete the project: 90 days

Target audience: Internet users

Estimated cost: \$120,000

- IX. State of the Environment. Many Americans believe that the quality of the environment (air, water, and hazardous waste sites) have gotten worse over the past several decades. What are the facts? While such data is available, it is not accessible in an easy-to-read format. The Center would produce a booklet, which would also be available online, that would visually show the environmental trends in this country and internationally.

Estimated time to complete the project: 120 days

Target audience: Members of Congress, congressional staff, Governors and State legislators, the media

Estimated cost: \$90,000

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