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FOLLOW THE MONEY

"How did it get missed for the last 10 years?"

Deborah Hersman, April 2014

This was the question Deborah Hersman posed to a panel of oil and rail industry experts, regulators, and lobbyists at a two-day oil-by-rail safety forum in April 2014. She wanted to know how the circumstances could develop for something like the Bakken "bomb trains" to happen. But that was when she was still the head of the National Transportation Safety Board (NTSB). However, much like Cynthia Quarterman called for stronger regulations after she resigned as head of the Pipeline and Hazardous Materials Safety Administration (PHMSA), regulators and government officials tend to tell a different story once they leave those jobs.

While no one answered her question at the time, Hersman provided the answer herself in an interview with Steve Inskeep on National Public Radio's Morning Edition later that same month, on her final day as head of the NTSB. She told Inskeep: "...follow the money—it all comes back to the money."[1]

If you want to follow the money in Washington, D.C., the place to start is with the lobbyists. For oil and rail, the two biggest players are the American Petroleum Institute (API) and the Association of American Railroads (AAR).

According to a New York Times article on API's efforts to help lift the crude oil export ban in 2015, the lobbying group's total budget is around $235 million a year.[2] That kind of money buys a lot of influence and control.

As noted in the previous chapter, one of the main problems with the regulatory and political system in America is that at every step of the way, the lobbyists not only have a seat at the table but also appear to be calling the shots. The API's budget helps explain this power dynamic.

The American Petroleum Institute is somewhat unique among powerful lobbying organizations. The API is much more than just a lobby. It also is responsible for developing the standards by which the industry it represents is supposed to operate.

According to API's website, "Since 1924, the American Petroleum Institute has been a cornerstone in establishing and maintaining standards for the worldwide oil and natural gas industry."

As API goes on to explain, one of the most important reasons to have industry standards is to promote safety: "Standards enhance the safety of industry operations, assure quality, help keep costs down, reduce waste, and minimize confusion."

It isn't hard to see how having the oil and gas industry's most powerful lobbying group, rather than regulators, in charge of developing industry safety standards might result in potential conflicts of interest.

For example, in 2018 the Interior Department proposed simply adopting the API standards as the new federal safety rules for offshore drilling.

Peter L. Strauss, an emeritus professor at Columbia Law School, provided global context for this scenario in an article by the Project for Government Oversight. "The American practice of turning these standards into law is somewhat unusual on the world stage," he said.[3]

"Unusual." What kind of oversight allows the lobbyists to write the regulations and the government simply adopt them as law?

At the end of the 2014 NTSB forum, Deborah Hersman had a troubling but highly informative exchange with Lee Johnson of the American Petroleum Institute. They were discussing the realities of the DOT-111 tank cars, which were known to be completely unsuitable for transporting flammable liquids—but were being used to transport the volatile oils produced by American fracking operations and Canadian diluted bitumen anyway.[4]

At the time, the industry position was that the DOT-111 tank cars were safe for hauling Bakken and other volatile oil. This helped justify the industry position that the DOT-111's would be needed for at least another 10 years while new safer tank cars were built. The exchange went as follows:

Deborah Hersman:

"We've talked a lot about operations and tank cars and the demands that exist for transport today. If we are talking about new tank car implementation and the rates that we heard earlier for production and the needs of your members, how long do you think that we are going to see DOT-111 tank cars to continue to exist in the fleet and at what percentage?"

Lee Johnson:

"It's a very good thing that the car owners, the RSI [Railway Supply Institute] members, stepped up to the idea of retrofits and we think that they should be analyzed and there should be good study and data-based decision making on what to do with those cars. But at this point what is being proposed seems to us to be not particularly well-grounded in facts. And so we like the holistic approach of looking at the integrated analysis in determining where best to put those cars in the supply chain for crude oil, ethanol, and other commodities."

Hersman:

"So, it is likely that we will continue to see the legacy DOT-111 cars in service for at least another decade, given what we've got as far as

production capacity for new tank cars and also the demand for the cars based on the projections for the product."

Johnson:

"If I agreed with you on that, it would be a personal opinion and I am speaking for API. I think it should be expected that with the rail industry, API, the ethanol folks all being very concerned and focused on safety that they are going to move as an industry to enhance the legacy cars as quickly as we can. And to replace them as quickly as we can."

Hersman then concludes with: "You're not making me feel very optimistic, Mr. Johnson."

When the Department of Transportation released new oil train regulations the following year, the agency allowed one type of DOT-111 car to remain in oil-by-rail service until 2023. That means Hersman was only off by a year in her estimate in 2014. The DOT-111 tank car phaseout was altered in 2016 as part of the Congressional FAST Act, moving up the deadline to 2018 for phasing out DOT-111s in crude oil transport. However, the FAST Act not only allows the Department of Transportation Secretary to extend the deadlines, the law also allows a version of the CPC-1232 tank car—the kind in use during the majority of crude oil derailments involving fires—to remain in use until 2025.

This exchange between the head of a federal regulatory agency and a representative of the nation's largest oil industry lobby and the way things played out in the years following clearly indicate that the American Petroleum Institute is setting the ground rules in the debate on oil train safety. However, it also raises several questions; the most obvious of which is: Why was Hersman even directing this question to an oil industry lobbyist?

Why ask lobbyists' opinions when they are being paid to influence the outcome in their industry's favor? And if you were going to ask a lobbyist about tank car production capacity, shouldn't you at least ask a tank car industry lobbyist? Or at least someone from the rail industry?

But the system is so broken that oil lobbyists often get to provide

all of the answers. Or perhaps more accurately, the non-answers. Listening to a representative of the American Petroleum Institute talk about "good study and data-based decisions" is a stretch. But to really add insult to injury, Johnson goes on to say that "at this point what is being proposed seems to us to be not particularly well grounded in facts."

To understand how outrageous these statements are, and why federal regulators should not be asking the American Petroleum Institute about anything involving fact-based decision making, it is important to understand the role the API has played for decades—and continues to play—in actively distorting the truth about climate science.

The Big Lie Strategy

In 2015, Inside Climate News produced an award-winning series on what ExxonMobil and the oil industry knew about climate change and when they knew it.[5] As one article in the series notes: "The American Petroleum Institute together with the nation's largest oil companies ran a task force to monitor and share climate research between 1979 and 1983."

And yet once the API and the oil industry looked at the data and realized the impact of fossil fuel extraction and consumption on the global climate, they did not choose to use this information to address the issue but instead pivoted to keep the public in the dark via misinformation and the marketing of doubt about climate science.

While the reporting from 2015 provided great detail about what the industry knew and when, it wasn't as if the fossil fuel industry approach of actively fighting science hadn't been known for years. In 1998 the New York Times reported on oil industry plans to actively attack the established science of climate change and wrote that the project was being led by a member of the American Petroleum Institute.

As the Times reported, "Documents describing the proposal to undermine the mainstream view were given to The New York Times

by the National Environmental Trust ... Phil Clapp, the president of the environmental trust, said he obtained the papers from an industry official."[6]

According to the Times, the oil industry noted, "It would measure progress by counting, among other things, the percentage of news articles that raise questions about climate science and the number of radio talk show appearances by scientists questioning the prevailing views."

In 2006, ABC News ran a story with the title "Was Confusion Over Global Warming a Con Job?"[7] In that article ABC highlighted a 1998 memo from the American Petroleum Institute which said: "Victory will be achieved when ... average citizens recognize uncertainties in climate science."

For decades, the API business model has been based on fighting scientific facts and actively trying to discredit climate science. When it comes to many of the issues surrounding oil-by-rail safety and regulation, the API continues this approach, making claims challenging scientific research. Yet again and again regulators and politicians invite the lobbying groups to the table to share their side of the story.

In addition to asking Lee Johnson to instruct the NTSB roundtable on when the API thought it would be reasonable to replace the unsafe DOT-111 tank cars in the crude oil rail tank car fleet, he was given time on the agenda to discuss the chemistry of Bakken crude oil.

During the roundtable, Lee Johnson presented on the API's crude oil classification working group, during which he said that the API "is going to come up with the standard which is going to have guidance on how often you should do that [testing], what tests you should take, sampling techniques, lab techniques. It's going to be a very comprehensive standard. At this point there is no industry standard."

The oil industry had been required to test the oil for certain properties such as flash point and boiling point before it was loaded into rail tank cars. Those properties determine how to classify the oil within the hazardous materials category of "flammable liquids."

Within flammable liquids, there are three packing groups. Packing group 1 has the highest risk of igniting and group 3 has the lowest.

However, the oil industry had apparently been assigning these classifications for years with no standard protocol for sampling or testing. That might seem like a rather fast and loose way to approach moving a hazardous material through communities across North America. Until you realize who is responsible for coming up with the standards on how to sample and test volatile oil: America's largest oil and gas trade group, the American Petroleum Institute.

With no standards for testing or sampling to ensure consistency or integrity, it becomes easier to understand why the oil involved in the Lac-Mégantic explosion—which originated in North Dakota—had been misclassified as less flammable than it actually was, based on samples taken and tested by the Transportation Safety Board of Canada after the crash.[8]

During his presentation at the 2014 NTSB forum, Johnson highlighted one of the main efforts of API's work on crude oil classification. The North Dakota Petroleum Council (NDPC) was hiring a firm to conduct testing on Bakken crude for classification purposes. When the results of that Bakken classification testing were eventually released, the Wall Street Journal reported that the conclusion of the "study" was as follows:

> "Crude oil from the Bakken Shale formation doesn't pose special risks to rail transport and shouldn't require a separate classification regime than other hazardous liquids, North Dakota oil producers said."[9]

On its own website, the NDPC notes that it "evolved from a division of the American Petroleum Institute," and the board of directors lists employees of oil companies that operate in North Dakota. Its chairman is from Continental Resources, a major player in the Bakken Shale. This group literally is invested in finding Bakken oil as safe to move by rail. The NDPC hired Turner Mason & Company, a

Texas-based oil industry consulting firm, to conduct the study that concluded exactly that.

According to Turner Mason's report, "The sampling methodology employed in the NDPC Study was the industry standard technique of capturing material from tanks at either the well site or rail location in a glass bottle and sealing them with a screw-on cap."

While this may be considered the industry standard, it is also a flawed technique for sampling crude oil to measure vapor pressure because it allows some of the volatile gases to escape from the open bottle before testing. Of course, it also allows the potential for skewing results by leaving the bottles open for a period of time before capping the bottles. Yet this is the approach Turner Mason used in a report funded by the oil industry.

Turner Mason published its report in August of 2014 but released initial results in May. Meanwhile, in June of that year the paper "Why Crude Oil Vapor Pressure Should Be Tested Prior to Rail Transport" was published online in Advances in Petroleum Exploration and Development, a publication of the Canadian Research and Development Center of Sciences and Cultures. The journal states that it "is devoted to promoting the development of petroleum exploration and development, and builds the bridge between the geology and the engineering of petroleum and natural gas."

In that paper, published before the Turner Mason report, the researchers wrote the following:

> "[C]rude oil vapor pressure decreases if crude oil has been tested from an open bottle instead of a pressurized FPC [floating piston cylinder], before they are being shipped in a rail cargo. If the sample is measured from an unsealed bottle, there is a risk that the actual vapor pressure of the crude oil inside the rail cargo will end up being significantly higher than the test results suggest."[10]

Turner Mason wasn't unaware of this testing method because it is mentioned in the report: "Recently, a new technique has begun to gain acceptance as an alternate method, which involves the use of a

FPC." The report then says Turner Mason compared the "industry standard" method with the FPC and "initial results from this testing proved inclusive."

That section of the report ends by saying, "Further evaluation, regarding the comparison of FPC results to standard sampling with Boston Round glass jars, is being considered and will be provided as an addendum to this report if conducted."

But the Turner Mason report notes that the practice of using an open bottle instead of a pressurized FPC is the "industry standard." And the industry standards are set by the American Petroleum Institute.

This is what happens when you let an industry self-regulate. It makes up its own rules and reality. Unfortunately, major media outlets like the Wall Street Journal then report this industry-created alternate reality as if it is based on the best science. Much of the time, it is not.

Perhaps there is also a memo in the API archives somewhere that says, "Victory will be achieved when ... average citizens recognize uncertainties in oil science?"

In May 2014, API CEO Jack Gerard made his position on Bakken oil clear: "It is essential to separate fact from fiction as we work to enhance the safe transportation of crude oil. Multiple studies have now debunked the idea that Bakken crude is meaningfully different than other crudes."[11]

The other so-called study Gerard is likely referring to was done by the trade group the American Fuel & Petrochemical Manufacturers (AFPM), whose 2014 work also is referenced in the Turner Mason report.

However, the AFPM study garnered criticism even from the Turner Mason report for its lack of using standard practices: "The report did not indicate if tests of differing methods were correlated in any way prior to comparison, nor what the minimum detection limits were or how samples were handled."

Who was behind this AFPM report? Dangerous Goods Transport Consulting, Inc. Which is really just Frits Wybenga, a chemical engi-

neer in Rockville, Maryland, who, according to his website, was Deputy Associate Administrator for Hazardous Materials Safety in the U.S. Department of Transportation Research and Special Programs Administration until 2005. The website lists no experience with the oil industry, and in December 2018, over four years after the report was produced, it is still the most recent listing on the site's "Completed U.S. Domestic Projects."

The AFPM report is a compilation of self-reported information from oil producers that even Turner Mason found flaws with. Its summary claims "The data obtained appears to be of good quality," and according to the accompanying press release from the AFPM, "The report results demonstrate that Bakken crude is well within the safety standards for current rail car designs. More specifically, Bakken crude is comparable to other light crudes and does not pose risks that are significantly different than other crudes or flammable liquids authorized for rail transport."[12]

These two studies appear to be the basis for API's chief executive claiming that Bakken oil is no different from other crude oils and requires no special handling. Two flawed documents fully funded by the oil industry, which contradict other information about Bakken oil but make the case that no regulation is required. Again, it is important to point out that API is the group responsible for creating the standards for the oil industry that are supposed to "enhance the safety of industry operations."

The year before he made that statement, Gerard collected $13 million in compensation for his work running API.[13] And based on the history of the group's efforts to create uncertainty about climate science, we know that API executives are paid to confuse fact with fiction when it is convenient for the oil industry.

Now no one should be surprised that API and the oil industry can produce studies that they pay for that contradict established research. In the 1990s the tobacco industry still had scientists willing to argue that nicotine wasn't addictive. This is what lobbyists do. Which is why if lobbyists are directly involved in every aspect of the

regulatory process, we should expect weak regulations that leave the public at risk in exchange for greater industry profits.

Today it's common knowledge that the tobacco industry lied for decades about the known health risks of smoking. We know the oil industry did the same about climate science, using tobacco industry techniques. And yet the oil industry gets to say that Bakken oil isn't more dangerous than other crude oils based on their own "studies," and much of the media runs this information as headlines in its reporting.

'I'm Not a Scientist' and 'The Verdict Is Still Out'

A popular approach to shedding doubt on climate science among climate-denying politicians, like Sen. Mitch McConnell and Sen. Marco Rubio, has been to make the disclaimer "I'm not a scientist."[14] Instead of deferring to the expertise of climate scientists as they would medical professionals, conservative politicians have used this position to say that they just aren't sure about the science or flat out don't believe the science of human-caused climate change.

Another approach by the anti-climate science crowd that API supports has been to push the idea that climate science "isn't settled."[15]

And with the success API has had in fighting real action on climate change, it should come as no surprise that the group has returned to these two tactics on the issue of the dangers posed by Bakken crude oil. First, they have used the "I'm not a scientist" approach and then followed that up with the absurd claim that the oil industry still doesn't understand crude oil.

Much like with the strategy to deny the scientific consensus on manmade climate change, regulators, lobbyists, and members of Congress have taken a similar strategy with the science of crude oil. Their discussions about the potential dangers of Bakken oil have been missing one critical component ever since the accident at Lac-Mégantic—the expertise of actual oil scientists.

In September 2014, the House Committee on Science, Space, and

Technology held a hearing because, according to Committee chairman Rep. Paul Broun, the committee was "interested in the science behind Bakken crude."

As reported by DeSmog at the time, no oil scientists were invited to testify at the hearing. However, Rep. Broun opened the hearing and blamed this seemingly fatal flaw in the process on President Obama's administration:

> "While I look forward to hearing from both panels today, I must say I am disappointed—though not surprised—at this administration's continued unwillingness to work with the Congress. Chairman Lummis and I invited representatives from the agencies who are experts in the subject matter because we are interested in the science behind Bakken crude. Instead, both agencies appearing before the Committee today declined to provide the witnesses we requested, sending us in their place witnesses more knowledgeable on the politics behind Bakken crude. As I said, I am not surprised, just disappointed."[16]

So, Rep. Broun was blaming the Obama administration for failing to allow the invited "experts in the subject matter." And with the lack of actual petroleum scientists on the panels, it would appear he had a good point. However, it was pure political theater.

Following the hearing, DeSmog asked Rep. Broun's office who the requested experts were who were not appearing at the committee hearing and, surprisingly, they actually replied and cited two "experts."

The first was Dr. Paula Gant. Gant is the deputy assistant secretary for oil and natural gas in the Department of Energy's Office of Fossil Energy. She has a PhD in economics and is not a petroleum scientist. Prior to her role with the DOE, Gant worked for the gas industry and Duke Energy.

The other was Dr. Magdy El-Sibaie, the associate administrator of the Office of Hazardous Materials Safety. While El-Sibaie does have an engineering background, his extensive experience focuses on the

issues of railroad track safety, including eight years working for rail industry lobbying group the American Association of Railroads.

In place of the experts Broun requested were Timothy P. Butters, Deputy Administrator of the Pipeline and Hazardous Materials Safety Administration (PHMSA) and Christopher Smith, Assistant Secretary for Fossil Energy in the Department of Energy. Butters' experience included chairing the International Association of Fire Chiefs' (IAFC) Hazardous Materials Committee and working as the managing director of the Chemical Transportation Emergency Center. Smith worked for more than a decade for oil companies Chevron and Texaco prior to joining the Department of Energy.

So, the two experts Broun wanted to have at the hearing actually had less experience with the issues of Bakken crude than the witnesses who testified.[17]

Rep. Broun seemed to have no interest in actually getting any real scientific information about Bakken crude. This was made even more clear with an exchange he had during the hearing with Timothy P. Butters, the deputy administrator of the Pipeline and Hazardous Materials Safety Administration. Broun was questioning Butters about the characteristics of Bakken crude oil.

> Broun: "Is ignitability and flammability synonymous with volatility?"
>
> Butters: "Volatility in the science vernacular is a material's propensity to vaporize and so as a flammable liquid has a higher propensity to vaporize, then it introduces ... it has a higher likelihood of ignitability."
>
> Broun: "Can you answer yes or no to this question?"
>
> Butters: "I'm trying to answer the question."
>
> Broun: "I've got limited time. I've got several questions. OK. Obviously, you can't answer it. Again, that just reiterates my disappointment."

The hearing consisted of hours of this type of discourse and was properly summed up on BillMoyers.com as "little more than an

opportunity for the chairs of several relevant committees to obfuscate the science around the dangerous nature of Bakken crude."[18]

However, despite Rep. Broun refusing to listen to Timothy Butters, Butters did communicate an actual scientific fact: a flammable liquid that has a higher propensity to vaporize has a higher likelihood of ignitability.

Later in the hearing, Christopher Smith, Assistant Secretary for Fossil Energy in the Department of Energy, made the very same point: "We think that in a laboratory setting for crude oil, higher volatility is going to be consistent with higher light ends which do have a higher degree of flammability and volatility."

So, in September of 2014 both a member of the regulatory agency overseeing the new oil-by-rail regulations and an official of the Department of Energy stated what is known about flammable liquids. Higher volatility, due to presence of light ends (aka natural gas liquids or NGLs), results in a higher degree of flammability and volatility.

Then, on March 24, 2015, the Department of Energy got involved in the discussion about Bakken crude with the release of a document called "Literature Survey of Crude Oil Properties Relevant to Handling and Fire Safety in Transport." This oddly name "literature survey" (which did not survey the scientific literature about crude oil properties relevant to fire safety in transport) was actually performed by Sandia National Laboratories for the DOE.

Sandia is perhaps better known for its role in the advent of nuclear weapons and subsequent nuclear weapon systems engineering and testing, rather than any expertise in oil. (Since 1949, Sandia National Laboratories has been run by a private entity, Sandia Corporation, which was originally a wholly-owned subsidiary of AT&T, then of Lockheed Martin, and now of Honeywell International.)

The report received little attention upon its release, although it was immediately touted by the American Petroleum Institute as proving that the characteristics of crude oil had nothing to do with the fires occurring in the Bakken train disasters.

The API press release stated: "The Department of Energy found no data showing correlation between crude oil properties and the likelihood or severity of a fire caused by a derailment."[19]

The first important thing to note about the "no data" talking point is that it is true. The literature survey did not find data on this subject because that isn't what the survey was designed to do. The survey reviewed three field sampling studies, rather than the entire suite of published research on the topic, on the characteristics of Bakken crude oil. None of these studies looked at "correlation between crude oil properties and the likelihood or severity of a fire caused by a derailment." It is easy for API to say that DOE's survey found "no data" when API knows there was no relevant data included in the source material surveyed.

However, the report gave the API its talking points and those talking points were soon put to use by more representatives in Congress.

On April 14, 2015, there was another congressional hearing on Bakken oil and the new DOE report was cited twice by two separate members of Congress. They both used the report to question a statement recently made by Federal Railroad Administration acting administrator Sarah Feinberg about the need for oil companies to reduce the vapor pressure and volatility of oil for rail transport to improve safety.

Early in the hearing, Rep. Lou Barletta (D-PA) read a question that contained the exact same description of the report's conclusion as the API press release (emphasis added to show same text).

> "You [Feinberg] have recently called on the energy industry to quote 'do more to control the volatility of its cargo.' You may have seen a recent report from the Department of Energy where the agency *found no data showing correlation between crude oil properties and the likelihood or severity of a fire caused by a derailment*."[20]

Rep. Barletta received $106,540 from the rail industry in the election cycle that occurred prior to this hearing.

Later in the hearing, Rep. Brian Babin (R-TX) read the exact same statement, word for word. It appeared even Feinberg was a bit surprised at being asked the exact same question by two different Congressmen. "I'm happy to take that question again," she responded.

Rep. Babin received $37,550 from the oil industry in the election cycle prior to making those comments, with $7,500 coming from ExxonMobil.

So, while API wasn't present at this hearing, it had two members of Congress directly reading prepared questions that echoed the trade group's press release on the DOE report word for word.

And while Acting Administrator Feinberg had called on the oil industry to control product volatility in March 2015, the day after that April Congressional hearing, she appeared on The Rachel Maddow Show and seemed to have changed her tune.

A Bakken oil train had derailed, caught fire, and spilled oil into a river, spurring evacuations in Mount Carbon, West Virginia, in February of that year and then two Canadian oil trains had derailed and exploded near Gogama, Ontario, in March. Maddow's show had been following the issue in detail. On April 15, Maddow asked Feinberg about the volatility of Bakken oil and if the threat of disaster could be minimized via stabilization.

> Maddow: "Is it a hugely expensive or untested or brand-new process to try to make that oil less volatile? My understanding, and I just have a layman's understanding, it's my understanding that there are —there's a lot of experience with conditioning the oil basically to make it more stable so it's safer to ship."
>
> Feinberg: "So I'm not an expert on physics and taking volatility out of products—and taking light ends off of products. But it's done in Texas, it's done elsewhere before it's put into pipelines and before it's shipped. It's certainly a possibility, it can certainly be done, but the science is still out, the verdict is still out on what the best way is to treat this product before placing it into transport."

Feinberg is certainly not a physicist. And while she didn't use the exact "I'm not a scientist" wording, it was the same tried and true API approach.

According to the FRA website's bio about Feinberg, she "has a degree in politics." She is the former Director of Corporate and Strategic Communications for Facebook and also worked for years for Rahm Emanuel in Congress and when he was President Obama's chief of staff. She would later be confirmed by Congress to head the Federal Railroad Administration. Along with not being a scientist, one thing that also was not on her resume was any rail industry experience.

However, with years of experience in politics and communications, she nailed the two talking points in one short answer while on the Rachel Maddow Show. She made it clear she is not a scientist and as far as Bakken crude oil is concerned she said, "the science [verdict] is still out." Unfortunately, Maddow did not follow up on this line of questioning by getting an actual oil scientist on her show to get a qualified answer to this question.

On May 1, 2015, the federal Pipeline and Hazardous Materials Safety Administration (PHMSA) in coordination with the FRA, released the long awaited new oil-by-rail regulations, which said, "These operational and safety improvements are necessary to address the unique risks associated with the growing reliance on trains to transport large quantities of flammable liquids."

The first 231 pages of the regulations don't even mention crude oil volatility or stabilization. On page 232 of the 395-page document, the regulations stated the following:

> "Any specific regulatory changes related to treatment of crude oil would consider further research and be handled in a separate action."

This statement was a big win for the American Petroleum Institute. And part of its success came by keeping oil scientists out of the

national discussions about how to make the transportation of oil safer.

As a result, the issue was handed off to the Department of Energy, which in turn decided to once again have Sandia National Laboratories, the federally funded and privately-owned research group, study the issue. The same group whose prior literature review was misinterpreted by the API and members of Congress. The study was expected to take two years.

However, Chris Smith of the DOE made an interesting disclaimer when announcing the study during Congressional testimony. Smith said, "Higher volatility is going to be consistent with higher light ends, which do have a higher degree of flammability and volatility," but he clarified the statement that this information was based on "a laboratory setting" and that "real world testing" was needed.

The DOE's study disclaimer was that it would not be testing the oil in the form of "full scale combustion tests" that simulate real-world conditions, but that it was willing to consider this testing if industry would fund it. That implies that Sandia National Laboratories would be studying what Smith said had already been confirmed in previous studies. The study had still not been released more than four years later.

Still, oil trains have continued to derail and explode despite having newer and supposedly safer tank cars, and API has not let up on this issue of oil volatility and its campaign of misinformation.

A Dangerous Conversation

In October 2016, at the annual Energy by Rail Conference in Arlington, Virginia, Suzanne Lemieux of the American Petroleum Institute gave a presentation on crude oil volatility and stabilization with the title "Crude Oil Volatility: Myth vs. Fact."[21]

She opened her presentation with the tried-and-true industry talking points. First, she wanted to make it clear that she is not a scientist. And then she followed up with what I'll call "The Big Lie,"

which is that we are supposed to believe that the oil industry doesn't understand the basic properties of crude oil.

"Just to preface my presentation, I am not a petroleum engineer and nor am I a chemical engineer," Lemieux said. She then explained that "what we're trying to get to is to understand what crude oil is." Next, after saying she wasn't a scientist and didn't understand what crude oil is, she worked through some talking points about the science of oil.

"I will reiterate that volatility in itself is a myth as far as a one-size-fits-all solution to this problem," Lemieux said. "It's not the way to go as far as improving safety."

Lemieux went on to make a statement about Bakken oil that ignores all previous research on the topic, but because she isn't a scientist, perhaps that is to be expected.[22]

"I would say that all of these conversations about [how] Bakken is inherently more dangerous, it's more volatile, etcetera, etcetera, those things from a chemical properties perspective just aren't true."

And while these are controversial statements, Lemieux made it clear that her employer, API, thinks the real danger is just talking about this topic.

"And so we in the oil and gas industry see this as a very dangerous conversation," said Lemieux. "Because the main point is that you're not really reducing risk." Later Lemieux stressed that the idea of regulating crude oil vapor pressure and volatility was a "huge concern" for the API:

"So it is a huge concern for us that there are these conversations that talk about volatility in these kind of simplified terms because there is no simple answer and it's not a simple issue."

Actual Scientists Have a Different Story

While there has been a concerted effort to create uncertainty about the science of Bakken crude, that doesn't change the actual chemistry of the oil and how it reacts when transported by rail. As Neil deGrasse Tyson, noted astrophysicist and host of science show

Cosmos, has said, "The good thing about science is that it is true whether you believe it or not." Dr. John Holdren, President Obama's top science advisor, made a similar statement about the climate: "Climate change doesn't care whether you believe in it or not. It's going to keep going."

The same is true about the science of crude oil. You can say that moving volatile oil with high percentages of natural gas liquids isn't more likely to ignite, but when the trains keep blowing up, the facts and evidence—along with the history of petroleum science—contradict your claims.

And not everyone is buying into The Big Lie.

In April of 2015, industry publication Railway Age asked the DOE why the agency needed to do yet further research on what is well-established science. In reporting on the lack of response from DOE, Railway Age contributing editor David Thomas was quite blunt in assessing the situation:

> "There was no response from the Department of Energy to our request for more information about the study, specifically why it needs two more years to figure out what by now should be obvious to the dullest high school chemistry student."[23]

Perhaps the Department of Energy refused to respond to Railway Age because it doesn't have a good explanation?

In her presentation, the API's Sarah Lemieux repeated over and over how complex this whole issue was and that only actual scientists really understood it.

In April 2015, at the same time that the head of the FRA was telling Rachel Maddow that "the science was still out" on Bakken crude, Al Jazeera asked an actual oil scientist, Dr. Ramanan Krishnamoorti of the University of Houston, whether more study was required to understand the volatility of crude oil. Like Railway Age, Krishnamoorti also was quite blunt:

> "The notion that this requires significant research and development is a bunch of BS. The science behind this has been revealed over 80 years ago, and developing a simple spreadsheet to calculate risk based on composition and vapor pressure is trivial. This can be done today."[24]

This might help explain why oil industry lobbyists and their friends in Congress don't ask actual oil scientists about the properties of Bakken crude oil. If you want to sell a lie, don't ask the people who will reveal the lie, let alone tell you the actual answers.

Regulators Considering Vapor Pressure Regulation

A couple of weeks after Suzanne Lemieux made her presentation to the Energy by Rail conference, the Pipeline and Hazardous Materials Safety Administration (PHMSA) made an unexpected announcement. The regulatory agency said it was "considering revising the Hazardous Materials Regulations (HMR) to establish vapor pressure limits for unrefined petroleum-based products."

According to the announcement, "PHMSA is currently assessing the merits of a petition for rulemaking submitted by the Attorney General of the State of New York regarding vapor pressure standards for the transportation of crude oil. The petition requests that PHMSA implement a Reid Vapor Pressure (RVP) limit less than 9.0 pounds per square inch (psi) for crude oil transported by rail."[25]

While this begins to acknowledge the science of oil and known oil transport risks, even if the process does result in a proposed rule limiting vapor pressure for oil transported by rail, it will be years before it would be an enforceable regulation out on the rails.

This move also highlights the effectiveness of the oil industry's ability to delay regulation by challenging science and warning against having this "dangerous conversation." This rulemaking, which should have been in the works directly after the Lac-Mégantic crash in 2013, was effectively delayed by three and a half years by the

oil industry and its lobbyists applying the proven misdirection techniques of challenging the science and manufacturing doubt.

A month after Sarah Feinberg appeared on Rachel Maddow's show and made the industry argument of not being a scientist but still maintaining that "the science [verdict] is still out" on Bakken crude oil, her boss, Secretary of Transportation Anthony Foxx, appeared on Maddow's show and also discussed oil train regulation.

Maddow specifically asked Foxx about how he was going to make the industry invest in safety, saying, "How do you make them do it?"

That Maddow would ask the top regulator how he was going to regulate industry is telling on its own. Foxx's response also shed light on the reality of regulations in America.

"They are not going to write the standard," Foxx said. "This is a standard that's going to be based on data. On what we know about this substance and other similar substances."

While this sounds good, remember Foxx asked the White House to regulate the volatility of the Bakken oil but was told that was off the table for the regulations. Someone other than the top regulator is apparently making these decisions. Someone wrote the regulation that avoided addressing the volatility of the Bakken oil. Clearly it wasn't Foxx. As then-head of the National Transportation Safety Board, Deborah Hersman said: "Follow the money."