



Episode Title: The East Palestine Train Derailment: Behind the Scenes with Three Former Government Officials

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Lynn L. Bergeson (LLB): Hello, and welcome to All Things Chemical, a podcast produced by Bergeson & Campbell, P.C. (B&C[®]) a Washington, D.C., law firm focusing on chemical law, business, and litigation matters. I'm Lynn Bergeson.

The train derailment in East Palestine, Ohio, has inspired a lot of conversation involving a wide range of topics, including emergency response measures, the rail transport of chemicals, and most pertinent to this conversation, communicating chemical risk information to the public. Several of my colleagues here at B&C have worked at the U.S. Environmental Protection Agency (EPA) in varying leadership capacities and other federal agencies charged with regulating chemicals and communicating safety and risk information. We thought it would be interesting to have a conversation with these former regulators about the challenges federal and state agencies face in responding to major incidents like the train derailment in East Palestine. This week I sat down with Jim Aidala and Dennis Deziel, both Senior Government Affairs Advisors at B&C and its consulting affiliate, The Acta Group (Acta[®]), and Dr. Rich Engler, Director of Chemistry here at B&C and Acta, to speak about some of the issues, given their unique perspective as former government representatives. Among the issues we discuss is what happens when the call comes in reporting on a major incident. How did each prepare for the unexpected? What are the key challenges in communicating risk information about chemicals to the public, and their thoughts on restoring trust in what the government reports during major incidents. Now, here is my conversation with Jim Aidala, Dennis Deziel, and Dr. Rich Engler.

Hello, gentlemen. Dennis, Jim, Rich, just delightful to have you in the studio today. You've all worked for EPA, a federal agency with lots of regulatory responsibilities, one of which is evaluating and regulating chemicals and communicating safety and risk information to the public, no small task these days.

Jim, you were former Assistant Administrator of what is now the Office of Chemical Safety and Pollution Prevention (OCSPP), among other leadership roles at EPA. Dennis, you were

most recently EPA Administrator in Region 1, New England EPA, and also served in senior leadership roles in the U.S. Department of Energy and DHS.

Rich, I think our listeners know you well. You headed EPA's Green Chemistry Program at EPA, and before joining EPA, taught organic chemistry at the University of California in San Diego, which is, given your teaching responsibilities, an integral part of this conversation. And now, to our clients' good fortune, you are all part of the team at B&C, helping clients address crises in one form or another and communicate information about the chemicals they manufacture and use to their various stakeholders.

With that little bit of introduction as a prologue, we're going to start with you, Dennis, and as former EPA Region 1 Administrator in New England, and also one who led efforts at the DHS on various emergency response-type activities, what happens when the phone rings and suddenly the public is wanting to know from you or your colleagues what the heck the government is going to do to help? How do you help respond, evaluate, and otherwise guarantee the safety of folks most imminently affected by some sort of emergency?

Dennis R. Deziel (DRD): Thanks, Lynn, for the question, and thanks for having me here. That tends to be an important first question that people ask, and it's the essential role of EPA also that people sometimes overlook. I guess some context maybe first would be helpful. There's the DHS, the Department of Homeland Security role, which is -- kind of falls into the FEMA [Federal Emergency Management Agency] role. FEMA is part of DHS. And then there's more of the state and local response. It all depends on the nature of the emergency, the nature of the disaster.

DHS gets involved when it's essentially a federal disaster, a federal-level disaster, and that will be declared by governors and states. So that's where you -- it's large-scale events that are happening that affect a lot of people in a large region. That's when hurricanes, earthquakes, floods, wildfires -- that's when the DHS machine kicks in. They've got a structure to respond to those sorts of events. There's something called the National Incident Management System, which dictates how the process goes about, and is set up, and sets up Incident Commanders and on-scene coordinators. The full process involves a national response framework. It involves emergency support functions. There's a -- it's almost like a federal emergency response bureaucracy that is always ready to act and move on large federal disaster-like events.

When it comes to something like a train derailment, it's a different sort of response. It uses a lot of the expertise and resources that you see from someplace like DHS. It can be case by case, but in a lot of ways, it's kind of a local event that moves up in terms of response. At the Region -- like you said, I was Regional Administrator, so I'm going to have a heavy regional bias here. This is -- emergency response is one of the prime responsibilities of the Region. This is where the relationships are. This is the front line that -- the staff, the EPA staff -- understand what's happening in the Region, the relationships -- they have the relationships. They are ready to respond in a specific area.

Let's say, as Regional Administrator, we've got -- I would get a phone call every week or two. We've got -- every region has a 24/7 watch desk. They've got an emergency response function. There's lots of training and preparedness going on. There's always the expectation that something could happen. And these aren't earthquakes, although they could be, or hurricane events. These are oil spills, derailments, industrial fires, a diesel truck crashes and spills 50 gallons of diesel fuel into a stream. And that's -- it can be anything from that menu of emergency situations.

LLB: Let me ask a question. Is there a qualitative difference between a natural disaster, like the tornadoes that swept through Mississippi last week, that might have inspired a release of a chemical, versus a train derailment, where there seems to be more of a human element involved, a lapse in safety or some human error? Do you prepare differently, depending upon the nature of the incident? Or are they all -- they're all just bad, unexpected, and difficult to manage?

DRD: They're all bad. They're all -- you're always doing tabletop exercises and preparing. A lot, and always, the responses are pretty similar, and sometimes the scalability of things. One of the benefits of DHS or EPA is the surge capacity, so you can go from small to big pretty quickly. In a case like a train derailment like this, where you're not sure exactly what happened. In the first -- let's say this happened at 9:00 p.m. on February 3. You know immediately that a 150-railcar train is derailed. You know that somewhere between 30 and 50 of the railcars are off the track. You know pretty quickly that this is a pretty significant event. This isn't a dump truck falling off -- there's going to be -- the emergency, the local emergency response is going to kick in first. They're going to work with the company to figure out what was on the train, respond immediately. All these local communities have mutual aid agreements, so that in the first hour or two, you're going to have 300 emergency response folks from dozens of towns responding to the degree they know how with the equipment they've got. And in that process, the local jurisdiction will reach out to the state jurisdiction. This might be the Department of [Public] Safety. This might be the Ohio Department of Environment. They'll figure out sort of the specifics, the details. By law, they're required to report that up through the national response process.

They'll be reaching out to the Region. As Regional Administrator, I was, for example, 9:00 at night. Let's say, by the time you're hearing something about this, it's probably 9:30, 10:00, the Regional Administrator and his or her leadership team, you're getting a text, a phone call, and an e-mail all at the same time.

LLB: Right, all at the same time. And the rest of the world is too, Dennis, right? Thanks to social media, making your life immeasurably more complicated.

DRD: Except for this -- all you're getting with this first info dump is the basics: This is what we know, as opposed to media, which is, "This is what we think." And then, as Regional Administrator, you decide -- you're going to work with your emergency response team to figure out deployment resources.

In the case, again, for this accident, this is out of Region 5, Chicago. They've got a whole emergency response team. The launch desk is up. They've got folks always ready with go bags, ready to roll. The EPA staff were at the site by 2:00 a.m. You can sort of walk through that process. Suddenly 9:00 p.m., you're getting calls at 9:30 or 10:00. You know this is a serious situation. You're getting information from the company and other state entities about what's happening.

Then you're deploying your team with contractors to the site as quickly as possible. In this case, it's just within hours. And then comes the -- who's in charge? There's a command structure. Something like this, again, it's so early. The state is going to be the lead.

EPA's expertise is the air monitoring, so that's one of the reasons you're calling is you want EPA to probably lead on the air monitoring and then support on the water sampling, and providing advice about other things that you see are happening. It's -- and then once you've

got EPA deployed, you've got the state involved, and then you have a much better sense of what's happening and how to respond to it.

LLB: Let me ask you one final question before bringing Jim into the conversation, and that is when an incident occurs in another regional office, as you noted, the East Palestine incident implicated EPA Region 5 out of Chicago. When you were in EPA Region 1, if an incident happened in another EPA regional office, did it have kind of a trickle-down effect that incidents or other activities in which you were engaged in another regional office, did you put your people on alert? Were they expected to be activated, or experience a new round of questions or press inquiries as a consequence of another incident in another part of the country? Did that happen?

DRD: Emergency response is almost like a network of people ready to surge to help. And so if -- in this example, if Region 5 had been overwhelmed, or they wanted more support -- this is going to be a two-month, 24/7 operation, the process is that they can -- you've got your regional staff, who are ready to supplement that work. You are always -- and it happens a lot when you send the regional emergency response staff to help other regions.

In Region 1, we had a case where -- I forget what the incident was. Maybe it was a power outage or flooding in Puerto Rico, which is Region 2, a sustained response event. And we ended up sending some emergency response there to support the cause.

James V. Aidala (JVA): Dennis, before we switch, but just back to your experience, what about interacting with headquarters on other media programs? I mean, if you need help on triethyl-something-or-the-other is at issue, and what do you think about a fill-in-the-blank program? You mentioned a little bit about the air program during monitoring. But the water program, the Toxics Program, or, gee, is this going to be a Superfund issue, or some other such, or a cleanup issue, derivatively from some of that authority? How much of the interaction is with headquarters, or is that just as needed?

DRD: It's certainly an existing as-needed process, but -- you're always coordinating with headquarters. Headquarters is where EPA's Emergency Operations Center is. EPA has an Office of Emergency Management, which is over 200 people. And again, you've got a 24/7 capability there. And they're helping to manage, and track, and support multiple incidents happening across the United States generally. You're -- as a regional office, you're going to have support to contact at headquarters in D.C. They're going to supplement your work.

If you've got a question about the chemical, or what to test for, or what to look for, or how to set up equipment, they've got reach-down capabilities into the program offices to get expert subject matter, opinion, and support. It's *not* stovepiped, which is a great thing. It's really -- it's a surge capacity, where if they need to get all hands on deck, they can do that.

LLB: Speaking of Jim, in your role as Assistant Administrator for what is now OCSPP, that is *the* office pretty much tasked with regulating industrial agrochemicals and chemicals of all sorts. I'm confident in your years with EPA, in various leadership capacities, you likely had similar episodes, not unlike the East Palestine situation. Do you care to share any of your experiences? Some of them, I think, are pretty memorable, if I recall.

JVA: Yes, there's a couple that come to mind, and -- I'm just even thinking about my time, per se, there's an even bigger one that's directly on point. Before my time, when I was working as part of the Congressional committee that has some oversight jurisdiction, there was a train that had a tank car full of a pesticide that drove through some canyon in California, had a

derailment, and rolled the tank car down into the river. And suddenly, as you might imagine, there were a lot of questions about what that's going to do. It was a reactive chemical, with water, no less. That was an incident that helped actually make Barbara Boxer. She was then a member of Congress and the House of Representatives on the committee I worked on at the time, and it helped make her a senator. I'll leave that there.

LLB: Yes, she pretty much honed her career and became a household celebrity as a consequence of that pretty high-profile chemical incident. I remember it well.

JVA: Yes, at the time.

Directly in my time, one of the more memorable -- it's a little bit different than a train accident per se, but sort of a sudden event, if you will. I was -- now, I'd been at EPA about a year. 1994. Curious incident. Their applicator for General Mills had sprayed the oats. When they bring in oats to their facility, they obviously have a nice big silo, like you see in the countryside. The oats go into the silo. They treat them with pesticide to make sure various vermin and things don't contaminate the oats. They're eventually going to be Cheerios and other kinds of cereals.

And it turned out that the applicator was trying to save money, so he used a similar but different pesticide, and in effect, used the wrong one. That was a problem, if you will. And there was a big contamination incident. It was Cheerios, which every child in America -- it's one of their first foods, right? And so, shall we say there was an alarm raised at that point. The first thing you have to do is try and figure out (a) everything, what happened. The first thing is two elements of messaging: one is, is there a big risk? And then what do you communicate about that potential risk?

Fortunately, in that case, we had quickly assessed that there was not a significantly different risk to the chemical; it was similar. It was a chemical cousin to the one that was supposed to be applied. And long story short, there is -- the person who misapplied the product guessed correctly, fortunately for the public and for us, frankly, trying to deal with it, because the toxicity profile was very similar, and we were able to determine that pretty quickly. That was fortunate, as opposed to using totally -- something totally different that we had less familiarity with and things. We were able to tell the public that there's not any kind of immediate harm. But then we also had the issue of, what do you do about the millions of bushels of treated food, and the materials that are in commerce and other cereals? It wasn't just Cheerios; it sold a number of different brands of cereal that the company made at the time.

Long story shorter there, we determined that we don't think there's a big risk, thankfully, from eating them. It had been going on for at least some period of months. That's good news, and you communicate that to the public. That's the first thing. Get those messages out.

Should you be alarmed? Should you do anything? And of course, a lot of people had immediate questions. At the same time, what do you do about the existing food? At the end of the long story, it basically came down to, if we allowed you to still sell those products, then we're allowing this bad behavior to be allowed in a certain way. And at the end of the day, we determined we're not going to allow that food to be distributed. All the stuff that was currently being held was destroyed. That cost the company some -- I think I've read numbers at \$80 to \$100 million at the time, and again, that was 30 years ago. So that would

be a larger number today. But that was the bottom line of the resolution of that contamination incident.

So that was, again, reassuring the public. You have to do the quick assessment to see whether or not there's a real risk that people need to worry about. Fortunately, we were able to say something, for lack of a better phrase, something intelligent pretty quickly, as opposed to saying, "Gee, we're working on it. We don't know," and all those kind of more vague messages. Especially -- again, 30 years ago, you didn't have the social media pressures and other things and people trying to second-guess everything within moments of an event. But again, the basics are the same. What really happened? Is there something people need to worry about? How do you communicate to the public? How do you then do it in a way that hopefully is convincing, meaning you're convincing people that you're doing your job as a regulator? In that case, we were able to have clear and clean information pretty quickly, as opposed to unfortunate situations where, "We're not sure." That's not something you want to hear from your federal regulators after an incident, or even after just not even anything that's immediate, just generally, when you say, "We're not sure," that's not a good, reassuring public message.

LLB: A couple of questions, Jim. It's interesting that I'm confident this incident, the spraying of the oats, occurred in some part of the country far removed from Washington, D.C., where you were managing this situation. When does Washington engage in crisis management and communication versus the actual EPA Region in which the incident occurred? This happened in the mid-90s. I'm guessing, but I think you would agree, that your life would have been immeasurably more difficult if this were to happen today, given the impact of social media and the speed with which news travels, and a topic we'll get to soon, the diminished trust that the public has in utterances from federal regulators from *any* agency, let alone EPA, the one that, in my view, is expert in things like communicating hazard and risk information pertinent to chemicals. What say you?

JVA: Two things. One is that the Regions -- this wasn't so much a big regional issue. Just by the nature of the way pesticides are regulated, it is more federal-centric or Washington-centric. Again, the fortunate part was that we had information that was relevant to the question, the immediate, the obvious question: "Are people still safe? Should they do something with the material they have in their cupboards?" let alone what's going to happen in the future with the company.

There is, I think, somewhere in my garage a picture of the product showing the absence of the product on store shelves, clearly noting a Cheerio shortage. "Sorry, there's a Cheerio shortage. We're out of supply. It will be back soon," because Cheerios were off the shelves for some period until they obviously came in, cleaned up the silos, brought in new raw material to that process, and to the product.

It was more of a federal-centric, again, Washington-centric exercise and less with the regions, even though we did coordinate because the eventual enforcement of the situation was done through the regional offices and things like that. Actually, the person who made this error -- because it wasn't an innocent mistake; it was very consciously applying a different pesticide than the one that was approved -- I think ended up having at least a short jail term for his misdeed.

LLB: No kidding. I didn't know that.

JVA: Yes. Somebody went to jail for it, which is, again, in the history of pesticide regulation, that does happen. It's happened once in a while, hopefully not too often. Because you really have to, shall we say, technical term, screw it up badly before you end up going to jail for making a pesticide problem. But again, they're toxic materials potentially. That's why they're called pesticides. It's always part of that communication issue, even if you want to say something's safe, but it's a pesticide. Even if you want to say that EPA does have such a designation, informally called a safer pesticide, technically called reduced risk.

But again, it's still a pesticide, and things like that. You always have to -- as part of the struggle, again, like you said, 30 years ago, it was a struggle to cleanly, precisely, and believably communicate to the public, let alone today.

Let me close on one point then, too. Rich, this is maybe something you'll end up talking about, but corporate behavior -- and I'm not trying to say anything good or bad about it -- but at the time, the company -- as General Mills, they make Cheerios. That's sort of public record, but their vigilant system of quality control, they would test their product for what pesticide levels may be in the product. And that made everything -- that was good. We were asking the question, "How'd you miss this?" And the answer was, "We run the lab samples through and see what the numbers are for the products that we've contracted to be applied." In other words, they were just testing for what *should* have been on the product, and the levels were safe, because there was none of *that* on the product, on the Cheerios.

They've now got a better, vigilant, and more broad sampling frame in order to try and make sure the products meet their quality control standards and things. That was a lesson learned by the company, and the lesson that anyone else in terms of -- if you're going to test products for your pesticides, you may want to have a little more of a vigilant system, other than just assuming that what you've -- what you *think* is on the product *is* on the product. And that's in addition to of course, the *federal* sampling program and things. And that's a whole nother story. Bottom line is that that was lessons learned by everybody involved.

LLB: Thanks, Jim.

Rich, you worked at the EPA Office of Pollution Prevention and Toxics, emphasis on pollution *prevention*. In a world -- that mythical place that we don't exist in -- where pollution *is* prevented, does this mean in your mind that chemical accidents like the one we saw most recently in East Palestine -- or other type of chemical incidents -- won't happen, or we don't need to transport really scary-sounding stuff from A to B, and these situations won't happen again? Is that what we're looking at?

Richard E. Engler (REE): There are two things there. First, let me address the notion of scary sounding. This is often a contributor to the problem. People are generally more afraid of the unknown and the unfamiliar. If it's substances they haven't heard of, "I have no idea what that is," that often increases anxiety on the public's part. So that strangeness adds to the worry.

But getting back to your question about pollution prevention, pollution prevention is about designing the system to minimize the amount of hazard or the presence of hazard in the system as a whole. Pollution prevention might be reducing the amount of PVC [polyvinyl chloride] that's needed -- and by reducing the amount of PVC that's needed, you reduce the amount of vinyl chloride that's needed for transportation. And it may be the case that that has already happened, and there was only one or two cars of vinyl chloride instead of six or seven.

I don't know facts around that, but that might be the case. It also -- you also might design a system if you're making PVC, where you're making the vinyl chloride in an adjacent facility, so you don't have to put the vinyl chloride on the train, and you don't have to build up stocks of it. You basically make the vinyl chloride and polymerize it into PVC promptly. So those are a couple of ways that you can bring pollution prevention to bear to reduce the presence and the need to transport things that are potentially hazardous.

LLB: Much is made today about a company's commitment to preventing pollution, to being sustainable, to engaging in practices that don't harm human health or the environment. Yet they still may have incidents of one form or another. Do you think those types of commitments and public outreach for entities that are engaged in the management, if not the manufacture, of chemical substances, however scary sounding they may be, fare better when incidents of the nature that we're talking about occur? Because accidents happen. It is an inevitable part of life. Chemicals are always going to need to be transported, right?

REE: Yes. Again, there are a couple issues there. One is does the company have a track record of being careful of safety and sustainability? Are they running their operations in a safe way, and are they doing their best to minimize the potential for accidents, or minimize the potential for the consequences of an accident?

But even the most innocuous substances can present some pretty significant hazards. You can have -- there's a long history of grain elevators in flour production or sugar production, those facilities exploding, simply because of the combustible dust that can be formed.

I was just -- this morning, I was thinking about the molasses flood in Boston, in -- I forget when it was -- in the early 20th century. A couple of dozen people died because this giant spill of molasses drowned people. You can have things that are essentially innocuous be a significant hazard. It's not just that you're handling chemicals. You need to run *any* industrial operation in a safe way. Frankly, you need to run *anything* you do in a safe way, even if you're just driving a car. Safety is important, and having a track record. If companies want to be public about what they do to manage their things in a safe manner, then they may get some credit in the public in an unusual circumstance that something does happen.

LLB: I'm going to ask this question of each of you gentlemen, because I have sensed an erosion of trust with regard to the communication of chemical risk by virtually *anyone*, whether it's an expert that is said to be independent but retained by a company, whether it's an EPA official who is expert in a particular aspect of chemical safety, or just about anyone.

I don't know why that is exactly, but the public is reluctant, it seems to me, to believe EPA or other government entities reassuring that there is no risk to be found and that everyone is safe. That was certainly the case with respect to the East Palestine situation. I think Administrator Regan traveled to that part of the country two or three times to provide personal assurances that all is well, and yet the media and others expressed some degree of skepticism. What do you say about that? Is that just a consequence of our time? Is it the availability of misinformation? What can be done to provide some degree of assurance that when government agencies speak, their word can be relied upon and trusted? Dennis, what do you think?

DRD: Yes, that is the question. It's a great question. I wish I had a simple answer. Some of these events, they get political so quickly, something like the East Palestine issue, where you're in a rural, conservative area, asking people to trust the government, doesn't always play out that well.

In this situation, you had a vinyl chloride tanker off the rail, heating up, and then the experts and the scientists have to decide, do you vent it and let it burn? Or do you let it explode? Or do you think the explosion risk is minimal? Something like this, where an explosion of a rail tank car, you're talking about a mile of metal shrapnel. They're making risk-risk tradeoffs. It's essential, *essential* that they communicate and be as transparent as possible, especially today, when the news is not just 24/7, but it's almost second by second with the social media piece.

When they decide to vent and burn the vinyl chloride for three, four days, and you've got black, pluming smoke, and they say, with that in the background, "This is fine. Everything's fine." You have to be careful about how you're messaging, and how it appears versus what you're saying. I know it's -- the trust issue is such a huge issue. I'm not sure how you solve the problem.

REE: Just this morning, I was reading in the paper about the spill in the Delaware River, and there was a commentator from one of the NGOs, the non-governmental organizations, that said, "Oh, this toxic soup is in the water." I'm reading about that. I'm like, "How do you know it's a toxic soup?" There's been very little reporting about what's in there and how hazardous it might be, so they're fanning the flame of the fear because they can. I was really quite disappointed that they're reacting in this way. Okay, there was -- yes, there's a spill, there's an incident, and there may or may not be a drinking water issue, but let's gather the facts and make a decision and not just jump on and --

LLB: -- well, use words like "toxic soup," which --

REE: Yes.

LLB: -- tend to be very -- conjures up images that are very unfavorable.

REE: Yes. You're making people afraid now, and now the folks that live there, how long is it going to be before they trust the tap water again? Because now they don't believe *anybody*.

LLB: Right.

Jim, circling back to the incident that we talked about with the railcar falling into the Sacramento River, I really do think it would have been vastly more difficult today to manage that situation, whether you're in Washington, or Sacramento, or wherever, simply because the speed of information and almost the inherent distrust that we tend to have toward anyone speaking from positions of authority, particularly about issues directly relevant to *our* environment, *our* health and safety, *our* immediate exposure to chemical substances. What is EPA -- what could it be doing -- or *any* government agency, for that matter -- to provide more consistent information to the regulated public and citizens as a whole? This perhaps level of distrust could diminish some, or at least start to restore a sense of trust and accountability in incidents such as what we saw in East Palestine.

JVA: That particular train derailment was even worse because EPA had given people assurances that it was all safe, and then it turned out that there was some data that the company had submitted but that EPA had not yet processed. There was some question, and later the state officials decided to go out and tell people that you should get tested or other kinds of things. That just really set off misalignment between the initial federal answer at the time, not under the Clinton Administration, just for the record; this was the Bush Administration at that particular moment. But the point is, it was a screw-up.

And then the state officials coming out, saying that there is potentially a concern. It turned out there was eventually not much of one, we think, again back when. But that was something that even today, when you have a full data set, you have a full set of people that have assessed it -- assessed the situation, albeit quickly, and all the other caveats about some kind of incident response, as Dennis mentioned earlier, that you still have people who will say, "Notwithstanding all that, I disagree. I read an article."

This is back to the social media and all the other instant everything. "I read an article once that said something different. And it's peer-reviewed. Well, that means it's clearly real, right?" Everything you read on the Internet is real, and true, and so forth. That's all part of the modern operating environment for an official. I sympathize, empathize, and thankfully say, "It's not my job anymore." That's part of the operating environment, as I said, that these folks have to operate in.

For example, you mentioned that the Administrator of EPA went onsite. I believe -- at least I'd heard along the way some of the coverage of it all -- that he drank the water.

LLB: I remember that iconic image.

JVA: "We at EPA have sampled the air, sampled the water. We believe that the levels are adequate, safe, and whatever. There may be a smell." That's what Rich was talking about it. In this case, it wasn't entirely unpronounceable. Sometimes that becomes a bigger problem. It's an unpronounceable, scary-sounding word, and it smells funny. I'm not trying to deride that. That's a real, natural response. I normally don't smell that when I live in my neighborhood, and I'm smelling it now. What's going on? But then the Administrator saying, "Well, those people." Obviously, sometimes it's like people in moon suits and lots of equipment are saying it's okay. Well, hold it.

And there we might -- it's a different public communication thing in another time and era, but the first genetically modified organisms [GMO] being tested, the people that were applying the first pesticide that was eventually potentially a GMO pesticide, they were wearing moon suits spraying a strawberry field. This was ice-minus, the original -- one of the original debates in the GMO space. And they had kids up to the fenceline on the strawberry field on their bicycles; it was summertime, so they're in their shorts and T-shirts and looking over at these people in moon suits spraying this stuff. It's just a scary picture. Again, even if the people sampling the air are all in moon suits doing their job, because they don't know if it's toxic or not. But then they're telling people the results are safe or okay, that's just sort of helping to lead without social media, without the modern era of distrust and other kinds of dynamics that, "Gee, I'm not sure I believe you. If it's so safe, why are you having these people run around so much?"

It's almost like another problem in a little bit, not to get entirely into the stock market today for all of us, but when the bank says, "Everything is safe. We have enough money. Don't worry about it. Your deposits are safe," guess what? A lot of people go out and say, "I'm going to take my money out anyway." So that's a --

LLB: Well, right. Even raising the issue suggests that there's something that isn't safe.

JVA: Exactly. And that's where -- okay. The Administrator's drinking the water telling me it's okay, but he doesn't live here. He's taken one sip of water, and I've got -- I'm living here. I'm going to bathe my family in it, and all the rest, and myself, and drink it every day. I'm not so sure.

I don't know. I think the classic rulebook on this kind of thing is to be transparent, is to be communicative, say what you *do* know and what you *don't* know. Always, again, try and be accurate. In the initial response time to any incident, you don't have full information, almost by definition. So hopefully, again, back to the train car incident in California, you're not going to make a mistake and have to go back and tell people that, "Well, what we said *X* time ago is a little bit different, now that we thought about it more, done more research." That's really hurtful to your ability to reassure people. But even when you had secretaries of the -- Cabinet Secretary-level people running around saying that the air is safe, "I'm drinking the water. I've come back more than once. I'm here to help people be reassured." And it's still, for all kinds of reasons, as we've already hinted at -- social media and other just general distrust -- is just an inability to really convince people. All the reasons, NGOs, media coverage, social media, all of the above.

LLB: I guess that's one of the reasons I raise the question about managing an issue from Washington. If people are flying to the problem and then they leave the problem, it naturally gives rise to precisely the point you just raised. "You don't live here. What the hell do you know? And you don't have to endure this situation for generations to come." On chemical incidents, in particular, it seems that having embedded local resident experts as spokespersons for these types of situations might provide an additional level of confidence that you're not going to cut and run or leave the problem. It's good to have national leaders come and demonstrate their sympathy, their empathy, their compassion for all of the inconvenience and heartbreak these situations invite. But it's also important to be part of a community and experience it not from the perspective of a visitor, but from the perspective of a resident.

REE: Just expanding on one of the points that Jim made, it's critically important that people in authority do not give false assurances. Don't -- there's -- as both Jim and Dennis have pointed out, you're operating in a space of limited information. What can you say about what is known at that time? And it's important that you not say, "Oh, no. Everything's fine," and then find out later that it's not.

LLB: It's not. Yes, it's devastating.

REE: Don't give false assurances. Be transparent about the information. I think it's important, as the listening public -- because we're all people, too -- is recognize that people will sell fear. Fear sells. When you hear -- people will often -- someone is going to magnify your fear of whatever, because they want you to listen or pay attention or click on their link. If we, as a population, if we can vaccinate ourselves to those sorts of scary messages, then we help reduce the consequences. We allow people to gather the information to figure out: Is there a problem? And then how are we going to manage this, not only in the short term, but also in the long term?

DRD: I think an effective strategy that EPA and the emergency responders took in East Palestine is they decided to go house to house and do indoor air testing, and outdoor air testing, and water testing. I think that's probably a good model going forward for getting people to understand at a much more granular level, (a) that people care about your situation and that, the general comments about "the air monitoring showed no issue," but if they're going to your house and they're doing data collection and analysis at that level, that *seems* to have helped EPA a great deal in terms of how they're working with the community.

LLB: Good point. Good point, Dennis. Let me transition to two more topics before we run out of time. And the first relates to what we talked about a minute ago, Rich, and that is scary-

sounding chemicals. Any relevance of all of these issues to the debate over our favorite emerging chemical, [per- and polyfluoroalkyl substances] PFAS? Those words are so hard to pronounce and difficult to spell, we've collapsed them into this term PFAS. What does all of this mean as we look at a world that is increasingly focused on contamination from everyday -- chemicals in everyday products, otherwise known as PFAS contamination?

REE: PFAS -- one of the things I bristle at, in terms of PFAS, it's an extraordinarily broad class of chemicals.

LLB: Right.

REE: Thousands and thousands of thousands of chemicals, which -- the properties across the class of PFAS range -- some of them are gases, some of them are basically recalcitrant solids. There's not a lot of similarity in the category of PFAS. There are probably more differences than there are similarities. So that alone is a problem in terms of any scientific assessment of PFAS. But they *are* used across a wide variety of applications. If you take the broadest definition of PFAS, you're including pharmaceuticals, and surgical implants, and aerospace components, and the newest, lowest global warming potential refrigerants.

There's extraordinary use and value in PFAS. And so, if you demonize the entire class, what are you giving up? When you're talking about, "I found PFAS somewhere," going back to what's the risk of that? It depends on what the PFAS is. Where is it? How is it found? Is it bioavailable? There's a lot of complexity there that, again, going back to the point about these accidents, it's like, what is the stuff? What are the hazards? What are the exposures? Is there a risk? That's complicated! Laying out that argument takes some thought, takes some information. It's much easier to say, "Oh my God! There's PFAS in your fill-in-the-blank, your water, your food, your soil."

LLB: Right. At any concentration, and it's all bad. That is the translation, right? Nobody looks to Dr. Google to determine what type of PFAS it is or what concentration. It's like it's all -- in the European Union, proposed rule that came out --

REE: Right. No PFAS.

LLB: It's unsafe at any speed. It seems like, with this class of chemicals, the problems with communicating risk are immeasurably more difficult.

REE: No question. And it's exacerbated by, really the political response, where the politicians are like, "Well, someone told me PFAS were bad, and I don't know what PFAS is, so it must be bad." It really is -- again, it's the selling of fear.

LLB: Jim, Dennis, what are your thoughts on that?

JVA: I forgot that Rich used to be a professor. I have two questions in that bucket. One is how many journalism majors attended your chemistry lectures? Number one. And I'll leave that snarky question just out there in the ethos. But also for all of us, I think we're all above average at the firm; at least we like to think so, and some of us more than others.

I know the lawyers may have another opinion, but learning a little bit about scientific notation. Here's the quiz for Rich. What I love in part about the PFAS situation -- this was just with some local coverage with some incident here. And it's a real issue. It's in the water from a manufacturing process, and people have the questions we're talking about, which

are, "Is it safe?" The local press says, "Oh, my goodness! The level that was found is something like 500,000 parts per trillion." They said, "That really sounds like -- 500,000 parts? Wow!" But hold it. If you said it's parts per million, do all the math. With the number of zeros, I think that works out to be, shall we say far less than 500,000, right? 500,000.

REE: It's a half a part per million.

JVA: Thank you. You win the prize. I had that answer already calculated out. But anyway, the whole point is if I said, "Dear public, it's point five parts per million, and we're working out whether its bubbles go with it."

Kidding aside about that, that's a real issue, with the scary numbers about scientific notation. Because if you say, "How many parts per quadrillion would it then be?" you can go all the way down, and up and down that chain, but in the world of PFAS, PFOA, PFOS, again, just two of the more notable members of the many hundreds of thousands, as you said, that you've got uncertainty. And with that uncertainty, I can't tell you for sure, quote unquote, "in addition to the generic, I can't reassure you [that] nothing," you know.

"Can you guarantee me that if I drink this water of whatever constituent chemicals, it is absolutely safe and no one can ever be harmed from it?" I can't prove a negative, so I can't say that you will never be harmed. But at the same time, when you have a lot of uncertainty because not too many of the many hundreds of members have been tested thoroughly, so on and so forth, back to the chemical testing authority under the new [Toxic Substances Control Act] TSCA legislation. These are all part of that common problem of uncertainty meets legitimate questions, meeting exaggerated questions. And is there a hope at the end of the tunnel of all that about better communication and better information? But there are still going to be uncertainties. Just like you said, there is going to be an accident somewhere.

I think, speaking of train derailments, the good news is they're very much down compared to not too many years ago in the past 15 years. But there's still, according to a pretty recent *Wall Street Journal* article, 300 a year. So 300 is still too many. And what do you do about that? So back to the question to the chemistry professor, given that we can learn more about these chemicals and do more testing under TSCA, is that one of the ways that we just have to get that information, A, get it in, and then, B, assess it, and then properly communicate? Is that a pathway forward to the questions, Lynn, you've been asking about how do we get out of this mess a little bit over time?

REE: Testing can help, but understanding the hazards is important. But vinyl chloride is relatively data rich, and we have all these uncertainties with this train derailment, even for this very data-rich substance. The toxicity data is only part of the equation. Just because you can more authoritatively or more confidently say these levels are safe -- we know enough about this stuff to know that exposure below whatever level that the testing justifies is safe. That doesn't change the individual's distrust of the exposure metric, right?

As Dennis pointed out, one of the key things that they're doing to rebuild trust is hyperlocal monitoring, like go to individual houses, and measure indoor air, and measure the outdoor at the house, and measure their tap water. That level hopefully helps rebuild trust, but at what point does the individual homeowner in East Palestine, Ohio, believe, "The point of departure for vinyl chloride is whatever, and therefore safe level is whatever that number is. I believe what they measure coming out of my tap." If you're totally mistrustful of the authority, are you going to listen anyway? Data helps, but I don't know that it is a cure-all.

LLB: Right. Last question: Can Lautenberg save us? Lautenberg is, of course, a shorthand way of saying the Frank R. Lautenberg Chemical Safety for the 21st Century Act, a law that was expressly intended in part to enhance consumer confidence in the federal government's ability to identify, and regulate, and mitigate risks from chemicals. Is it doing its job, and will it save us? Jim, what do you think?

JVA: I'm just reminded of my old job and one of my earlier jobs at the Congressional Research Service. I'd get questions all the time about, "Is chemical *X* safe? Or is it food safe, or pesticide safe, or not? Because I was the desk officer for chemical and pesticide regulation in that job. Some Congressional staffer would call up, and by definition, we were bipartisan, and objective, and so forth. I would say, "Do you want me to reassure you, or do you want me to scare you?" That was an early lesson, even in that context, about trying to figure out the best way to deal with some of these issues you're talking about.

The short answer to the question, will Lautenberg save us? Yes, over time. Just like the original TSCA legislation in '76 works on paper. Getting that data in, as Rich says, that's not enough, getting the data, but you really have trouble communicating what you do and don't know if you don't know much. Get the data in, do those assessments according to the modern ways of doing assessments, try to communicate better, even though it's scary-sounding chemical names and all this gobbledygook about NOELs [no observed effect level], and LOELs [lowest observed effect level], and points of departure, and all that. Again, by working on a committee, if I wanted to have my boss chairing a hearing deride whoever is coming in telling me it's -- that this all means it's okay, I'd say, "Professor, I'm sure you have more degrees than a thermometer, but I just want to know if it's safe." Right?

I don't want to hear about MTDs [maximum tolerated dose], and rats, and rat livers, and the coefficient of this or that. Because, again, like most general, average Americans, quote-unquote "average Congressmen" don't know a lot of science either. You have all that, what we talked about: the modern context of social media, the media media, the scientific competency. Even if the media reporter is scientifically competent and after communicating to a public, their readership, which is less so, etc. This is all on top of -- I think we made an early Ted Lasso comment, but goldfish: Be like a goldfish. They have the attention span of about six seconds. And then you can forget about it and move on to the next thing.

This is all the operating environment for the modern regulator and the modern corporate executive trying to communicate that we're actually, fill in the blank: trying to do a good job. We are doing that testing. We are trying to reassure the public. We're complying with all the federal regulations that we have to comply with, doing the adequate job there. Beyond that, even if, again, one of the concepts in the environmental space is beyond compliance. You don't just follow what the rules are. You're going that extra mile to be pollution preventing, to be more aggressive about data that are coming in, even if it's not required yet, and things like that. That's a long-winded way of saying, just you do your best, you hope for the best, but at the end of the day, you're going to have these problems.

LLB: I'll take that as a yes, Jim, that Lautenberg will do its job, but it will take some time. Dennis, what say you?

DRD: I say no. I don't think TSCA was designed for problems or situations like this. Like Rich was saying, there's a trust issue. There's a question of -- you're testing for these chemicals. They're -- based on your data, they're safe. How do I know you're testing for the *right* chemicals? Or how do I know that you're telling me the truth? The third-party role is going to be critical. Risk communication is going to be critical. I don't know if TSCA was

designed for something like this, but I guess I look to Rich to -- I'd love to hear Rich's opinion, I guess.

REE: I think more data are useful, so to the extent that more data are going to be generated on substances under TSCA, that's a good thing. But you can't ban accidents. There's -- I think there's a limit on how the regulatory authority under TSCA can be brought to bear. You can potentially ban a hazardous substance that might be involved in an accident, but, as I started off the conversation, you can have entirely innocuous substances be involved in an accident and a very significant accident. I agree with Dennis that it's not really the right tool to -- I don't think Lautenberg's the right tool to address these sorts of emergency situations, but it can contribute to the knowledge base.

LLB: Absolutely. And I think it was an express intention of Congress in passing Lautenberg in 2016 to add to the information base so we can have confidence in the products that consumers in particular enjoy, that are all basically based on chemicals.

Thank you, Jim. Thank you, Dennis. Thank you, Rich, for an interesting, provocative conversation about some very, very challenging and important communication issues with respect to chemicals in our world. I'd like to thank each of you for your contributions, and we'll all continue to do our job: to speak the truth, to be consistent, and to be honest in communicating chemical risks. That's about all we can do. Thank you, gentlemen.

REE: Pleasure to be here.

DRD: Thank you.

JVA: Well said.

LLB: Thanks again to Jim Aidala, Dennis Deziel, and Rich Engler for speaking with me today about their experiences as former government employees in dealing with major chemical accidents and how to communicate chemical risk information to the public.

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