

**PROTECTING PUBLIC HEALTH AND THE
ENVIRONMENT IN THE WAKE OF THE NORFOLK
SOUTHERN TRAIN DERAILMENT AND CHEMICAL
RELEASE IN EAST PALESTINE, OHIO**

HEARING
BEFORE THE
**COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS**
UNITED STATES SENATE
ONE HUNDRED EIGHTEENTH CONGRESS
FIRST SESSION

MARCH 9, 2023

Printed for the use of the Committee on Environment and Public Works



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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED EIGHTEENTH CONGRESS
FIRST SESSION

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PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT IN THE WAKE OF THE NORFOLK SOUTHERN TRAIN DERAILMENT AND CHEMICAL RELEASE IN EAST PALESTINE, OHIO

THURSDAY, MARCH 9, 2023

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

The committee met, pursuant to notice, at 10:04 a.m. in room 406, Dirksen Senate Office Building, Hon. Thomas R. Carper (chairman of the committee) presiding.

Present: Senators Carper, Capito, Cardin, Sanders, Whitehouse, Merkley, Markey, Stabenow, Kelly, Padilla, Boozman, Sullivan, Graham, Mullin, Ricketts.

**OPENING STATEMENT OF HON. THOMAS R. CARPER,
U.S. SENATOR FROM THE STATE OF DELAWARE**

Senator CARPER. Well, good morning, everyone. Thank you all for joining us today for this important hearing. Ranking Member Capito and I thank all of our witnesses for joining us today as well, including our witnesses and colleagues from Ohio and Pennsylvania. We look forward to the testimony of each one of you.

As we know, last month, news broke out about an environmental disaster caused by a Norfolk Southern train derailment near East Palestine, Ohio, less than a mile from the Pennsylvania border. We are here today to discuss that train derailment and subsequent hazardous chemical release, which led to a controlled burn of dangerous chemicals and the mandatory evacuation of some 2,000 people. This tragic incident is a reminder of the importance of following the Golden Rule and treating other people the way we would like to be treated if we were in their shoes.

Today's hearing is an opportunity to put ourselves in the shoes of those impacted by this disaster, examine the immediate response, and ensure long-term accountability for the cleanup efforts. It is our responsibility in Congress to answer one, what went wrong, two, what do we need to do to fix it, and what do we need to do to make sure it never happens again.

Every so often, an environmental disaster in our Country underscores our responsibility to protect public health and our environment. In 1969, I recall seeing news coverage of a train spark that ignited the polluted Cuyahoga River near Cleveland, Ohio, just

north of Ohio State, where I was a Navy ROTC midshipman a year earlier.

As our Nation watched a river engulfed in flames, it served as a wake-up call to better protect communities from hazardous substances and to take responsibility for cleaning up environmental disasters. This movement helped lead to the creation of the Environmental Protection Agency, which had broad bipartisan support.

My hope is that in the aftermath of the disaster in East Palestine, we can come together once again to identify solutions that will protect communities, improve safety, and restore trust.

We must work together with our colleagues on other relevant House and Senate committees to strengthen our Nation's rail safety regulations, ensure compliance with them and prevent future incidents like this one from happening again.

We also need to make sure that the impacted communities receive the resources and the support that they need. Our existing laws have allowed EPA to identify Norfolk Southern as a responsible party and begin to hold the corporation responsible for the costs of the emergency response, as well as for the long-term remediation of this area. We want to hear from our witnesses today whether Norfolk Southern is meeting its obligations, including its moral obligations.

In addition, we should note that responding to this disaster is a shared responsibility between different levels of government and Norfolk Southern. It is imperative for us to ensure that the agencies tasked with responding to disasters like this have the necessary resources that they need to ensure the safety of the air that people breathe, the water they drink, and the soil they use on which to grow crops.

It is worth noting that the Biden Administration has been on the ground from day one. As we will hear today, the EPA, working alongside State and local partners, arrived in East Palestine within hours after the derailment and has maintained a presence ever since. In fact, Administrator Regan has visited the area, I am told, some three times already and expects to go back for more.

In the wake of the chemical release, these government entities have worked tirelessly to install air and groundwater monitoring systems, as well as sample the water and the air for toxics and oversee the removal on contaminated soil.

Norfolk Southern appears to have cooperated with these orders and has agreed to pay for the environmental cleanup resulting from the derailment. However, the ultimate costs may exceed the immediate cleanup needs. Moreover, an apparent lack of transparency on the part of Norfolk Southern, at least in the early days of the response, has left some members of the community battling with mistrust and looking for answers.

We are told that the company's failure to communicate directly includes information given to some first responders, who were under the impressions that only one car would be vented and burned, rather than five. This miscommunication left first responders scrambling to ensure the public safety requirements of a much, much larger plume.

We have also heard from some residents who were told it was safe to return to their homes, but are still experiencing ongoing

health problems. Other concerns remain, such as loss of property values and the long-term impacts on our most vulnerable citizens, including children and the elderly.

As I said earlier, today presents us with the opportunity to learn from this experience, address misinformation, and gain a better understanding of the long-term plan to protect public health and address the environmental impacts of this disaster.

Just as we witnessed an earlier environmental disaster in Ohio 54 years ago that I have alluded to, a new generation of Americans is now waiting to see how their government responds today and in the days to come. This incident may well prove to be a defining moment in their lives as it was in my own.

Let's do what is right, not only for the people of East Palestine, but for everyone who believes that those who transport potentially dangerous chemicals must take the necessary steps to protect our people and our one and only planet.

With that, let my turn over the rest of the opening statements here to my Ranking Member and my partner in so many ways, Senator Capito.

**OPENING STATEMENT OF HON. SHELLEY MOORE CAPITO,
U.S. SENATOR FROM THE STATE OF WEST VIRGINIA**

Senator CAPITO. Thank you. Thank you, Mr. Chairman. Thank all of you for being here today. I am really pleased that we have the hearing and we have our fellow Senators here with us as well.

As you said, we are going to discuss the ongoing environmental response to a large-scale chemical spill resulting from a Norfolk-Southern train derailment in East Palestine, Ohio, which is 14 miles north of the West Virginia border.

Before we go any further, I would like to take this opportunity to thank the emergency responders who were on the scene less than an hour after the incident was reported and are continuing today to work diligently on our cleanup efforts. Thank you all so much. These kinds of accidents are some of the toughest days for them because these men and women, these are their neighbors, in some cases, their relatives, and certainly their hometown friends.

It weighs on all of us here. This catastrophe upended the lives of thousands of our constituents in States represented today. The residents of East Palestine and other impacted communities, including those in West Virginia, deserve the chance to hear publicly from those involved in and affected by the cleanup efforts. They need to know what progress has been made, the challenges that lay ahead, and what lessons can be learned to improve future responses.

From day one, responders across all levels of government, as well as the private sector, have worked around the clock on monitoring and mitigation to keep the public and environment safe. I appreciate EPA and other relevant organizations for providing regular updates to Congress on the status of the response. However, I want to convey to all of you that the public deserved a better level of transparency and much, much sooner.

A month after the accident, it is clear to me that EPA's risk communication strategy fell short. In the immediate aftermath of the incident, impacted communities were clamoring for answers. While

we are well aware that monitoring efforts and response planning need to be sound, we need to understand why it took so long for the EPA to get accurate data to the public.

This is especially true when organizations like the Ohio EPA and the Ohio River Valley Sanitation Commission, better known as ORSANCO, both represented on our panel today, managed to provide data and safety information to the public quicker. They were distributing EPA data faster than the agency itself was willing to, not only with the public, but also during briefings and conversations with the affected congressional offices.

In the absence of adequate transparency to the public, that just opens up a gap for social media, armchair citizen scientists, and political pundits on both sides to fuel false narratives that have further undermined that public confidence in the response to the derailment.

With each week passing, the confusion seemed to grow. Even after weeks of repeated air, soil, and water monitoring have shown levels of the implicated contaminants of magnitude well below the ATSDR and EPA levels of concern in the air and water, the initial delays in messaging and response has meant that the residents still do not trust these results enough to feel safe, and trust is essential in these situations.

That has been made worse, I think, by a lot of the misinformation that we have seen. You can not address fear and mistrust by pointing residents to an EPA website filled with fact sheets and press releases. Risk communication needs to be done in a clear but compassionate, relatable manner right down there where it is happening.

Why did it take weeks for the EPA Administrator to drink the water he repeatedly told residents was safe? Why did it take almost a month to establish a response center and go door-to-door to address East Palestine families' concerns?

As a result of early missteps, I believe that we need to keep moving forward here. This committee must get to the bottom of whether EPA has some of the authorities for some of the actions that it has taken on the removal and whether they are serving the best interests of our constituents.

How will EPA approving every shovelful of dirt that is moved benefit safety or expedite the process? These are the questions I am going to have. How and why is EPA prohibiting contaminated soil and water from leaving the State of Ohio into qualified destruction facilities, how is that going to improve outcomes?

I am concerned that at least one of the Ohio facilities EPA is now activating for this purpose has a history of Clean Air Act violations and may not be able to sufficiently destroy contaminated soils in a way that ensures communities may not be further impacted by emissions resulting from incomplete incineration.

The EPA has been slow to respond to some of our office's inquiries on the use of PFAS-based firefighting foams in combating the fire, nor explaining how residues from those foams may be responsible for some of the purported pollution that has made the rounds.

The EPA could have also made abundantly clear that Norfolk Southern would be completely liable and that no expense would be spared in the cleanup efforts. That is required by the law. Instead,

it took weeks for the average American not well-versed in the nuances of CERCLA, which is the act that covers this, to receive that assurance.

Mr. Shaw from Norfolk Southern will be on our panel, and I look forward to hearing from you on what Norfolk Southern is doing to make things right. As you know and as you have stated in your statement, your company will pay for the harm that it has caused, and is paying. It will pay for the initial cleanup and likely pay again when the lawsuits from the myriad harms caused begin to come in, though how much will be a matter for the courts.

Culpability in this incident and the liabilities that will result are clearly defined in the statute known as CERCLA, and the liabilities for Norfolk Southern under CERCLA are among the broadest and strictest in any Federal law.

Before Congress considers any changes to existing laws, we must better understand what has gone wrong with this response to far and what can be done better in the future, but also what went right. To the residents of East Palestine and surrounding communities, your Congress hears you. Every American deserves to feel safe in their home and confident that the water that they drink and the air that they breathe is safe.

When something like this happens, God forbid, they should also be able to trust that the Federal Government will be quick, deliberate, transparent, and clear in their response, and that guilty parties will be held responsible.

I believe the environmental laws on the book are up to the task. What has gone wrong, what has gone right? That is what we are here to talk about today.

Thank you.

Senator CARPER. Thank you, very much.

Let me now recognize Senator Jeff Merkley. Jeff is the chairman of the Subcommittee on Chemical Safety, Waste Management, Environmental Justice, and Regulatory Oversight. We will recognize him for his statement.

Jeff, you are recognized.

**OPENING STATEMENT OF HON. JEFF MERKLEY,
U.S. SENATOR FROM THE STATE OF OREGON**

Senator MERKLEY. Thank you very much, Chairman Carper and Ranking Member Capito for today's hearing.

As Chair of the Chemical Safety Subcommittee, it is absolutely critical we examine the impacts to public health and well-being of the people of East Palestine following this disastrous derailment of a Norfolk Southern freight train that was carrying tons of toxic and hazardous materials, and certainly the impact coming from the plumes of smoke that burned for over 2 days.

This tragedy demands accountability, because future derailments will happen. Unless we learn the lessons of this incident, there will undoubtedly be more derailments, derailments with devastating impacts on additional communities.

For years, my office has been hearing from Oregonians who are terrified about the risks of trains rolling down the tracks in the middle of their towns full of toxic chemicals. They remember when a Union Pacific train derailed in Mosier, Oregon, in June 2016,

spilling some 42,000 gallons of crude oil in front of a school. A massive fire, damage to the water and sewer systems, and the debris made their way into the Columbia River. They remember the billowing tower of toxic black smoke that could be seen for miles and miles up and down the Columbia Gorge, in an area blanketed in toxic ash.

At that time, Senator Wyden and I pushed for huge improvements in track maintenance, improvements in the brakes, improvements in the tank cars, improvements in the prepositioning of supplies to respond to disasters, and improvements in communications. The progress was very limited.

Since 2015, there have been 100 derailments of trains carrying hazardous materials, one per month. In this coming year, there will probably be another 12 at this pace. As of 2017, around a million tons of hazardous materials is transported by rail every day, and that was the last year the numbers were released. I suspect they are even higher today, because we have growing supplies of toxic chemicals, particularly related to the plastics industry.

We know the danger posed by these chemicals. We know that when they are going down the rails there is the possibility of a disaster. There is so much that can be done to limit the odds of disasters happening. That is our responsibility.

We need to recognize that when a derailment occurs and toxic chemicals like vinyl chloride are leaked, people are aware that these chemicals cause lymphoma and leukemia and cancers. They are absolutely, legitimately, extremely concerned, and residents of East Palestine are complaining about all sorts of health issues.

Let's have this hearing today be an opportunity for us to examine not just the response, but how to prevent these derailments in the future, and the types of investments that are required so that future communities are not terrorized by these derailments that are happening at a pace of once per month.

Thank you very much, Mr. Chairman, Ranking Member Capito, for the opportunity to share those comments.

Senator CARPER. Senator Merkley, thank you so much.

Now, I am going to recognize Senator Mullin, the Subcommittee Ranking Member for his statement. Senator Mullin, you may begin.

OPENING STATEMENT OF HON. MARKWAYNE MULLIN, U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator MULLIN. Thank you, Mr. Chairman. I want to start off by thanking everyone, including our five panelists, and Senator Brown, Senator Vance, and Senator Casey for attending this hearing.

The people of East Palestine have shown perseverance and bravery during a time that, understandably, they are very anxious and upset about. In the aftermath of the derailment, the decision was made to burn hazardous chemicals leaking from railcars out of fear of explosion. Since then, residents have reported headaches, coughing, fatigue, irritation, pain, and burning sensations on their skin. The people of East Palestine now fear for their health, despite the EPA claiming that everything is Okay.

The public's trust in the government is near record lows. Only 20 percent say that they trust the government to do the right thing. After the last 3 years, there is no wonder that the residents are calling into question about the response and advice the government bureaucrats are giving. The mixed messaging from the Administration in the days and weeks after the tragedy has only added fuel to the fire. Actions have consequences.

Both the Secretary of Transportation and the Administrator of the EPA delayed their visit to East Palestine and says that when they got there, hey, it wasn't our problem. It was the previous Administration and their deregulation that caused this. It is time for everyone to take responsibility.

In contrast, I applaud the timely on-ground response efforts from the local residents and the first responders. The people of Ohio have truly come together to help neighbors in a time of need. In Oklahoma, we call that the Oklahoma standard.

Moving forward, today's hearing allows us and allows witnesses to provide much-needed clarity and assurance to the public. We need to know how to prevent tragedies like this from happening again. We need to know what caused it.

There are serious questions that need to be addressed, such as the States that toxic waste is being shipped to, how long the chemicals are sitting in the cars, if the bearings were appropriately re-inspected, why where all five cars burned instead of just the one, why the Administration and Norfolk failed to provide accurate and timely information to local authorities, and finally, what are we going to do about the town moving forward?

The residents, understandably, do not feel safe, and we need a plan to put their lives back together. I expect our witnesses to transparently discuss these issues so we can prevent accidents like this from occurring in the future.

Leaders take responsibility. They do not point fingers and dodge responsibilities. The people of East Palestine need to see the Administration and Norfolk take responsibility and show results.

I yield back.

Senator CARPER. Thanks very much for that comment.

Before we turn to our colleagues who have joined us for today, I want to just ask unanimous consent, if I could, to submit for the record a statement on behalf of our EPW colleague Senator John Fetterman of Pennsylvania, who cannot be with us here today.

For my colleagues, I would just like to quote a couple of lines from Senator Fetterman's testimony. Here is what he says: "I am working with my colleagues across both State and party lines to fight for the forgotten people of Pennsylvania and Ohio, hold Norfolk Southern responsible for the damage that they have caused, and prevent similar disasters from happening in the future. I would specifically like to thank my colleagues from Ohio, Senator Sherrod Brown and Senator J.D. Vance for being great partners with Senator Bob Casey and myself throughout this process."

Senator Fetterman later states in his testimony, "my hope is that we answer this disaster caused by egregious negligence from Norfolk Southern with real policy solutions that will hold Norfolk Southern and other similar companies accountable while making American families safer in the future. I believe that the legislation

introduced last week is a great step, and I look forward to getting some answers today to continue to work with my colleagues to get Pennsylvanians and Ohioans alike the resources that they need.” That is his statement. We thank him for it.

Senator CARPER. We now turn to our colleagues who have joined us here today. First, I want to recognize Senator Bob Casey. Senator Casey from Pennsylvania, you are welcome to proceed when you are ready. Please proceed.

**OPENING STATEMENT OF HON. BOB CASEY,
U.S. SENATOR FROM THE STATE OF PENNSYLVANIA**

Senator CASEY. Thank you, Chairman Carper, Ranking Member Capito, and members of the committee for holding today’s hearing. I am grateful to provide some testimony.

I am also grateful that I am running ahead of both of my colleagues, Senator Brown and Senator Vance, because of my chairmanship of the Aging Committee, which is starting a hearing rather soon, so I appreciate their indulgence.

I do want to thank both Senator Brown and Senator Vance and Senator Fetterman for working with us and others on this. Representative Deluzio of Pennsylvania as well, has worked on this in the House, I know, with others.

I wanted to start from the Pennsylvania side of this, Darlington Township, Pennsylvania in Beaver County, right on the Ohio border. As many of you know, the derailment occurred just literally feet away from the Pennsylvania border. I know you will hear today from Eric Brewer, who is the Director of Emergency Services and Chief of Hazardous Materials Response from Beaver County, and I am grateful for his testimony.

I will just quote maybe three people. That is all I will do in the interest of brevity. The first is Police Officer Dan Frederick, about his experiences on the ground that night. I am quoting him. “As a first responder, particularly as a police officer, we all know and understand the risks that come with our line of work. However, we usually know, or have an idea of, when something or someone can kill us. When I left my two boys and wife to respond to the hot zone, I was expecting to be informed of exactly what was on that train and the potential health hazards. To say I was scared the night of the derailment is an understatement.”

I have also heard from residents about their fear of long-term health impacts and the safety of their families and communities moving forward. Jenny Santana of Darlington Township said, “I want to know it is safe to stay here. All of these people deserve honest answers, and nobody is getting them. If it were your children’s lives in questions, how far away would be safe? Please hold them accountable and make them help us.”

Farmers in the region, I have heard and I know my colleagues have heard the same, are concerned as well. They want help from the Department of Agriculture. They want certainty that their crops and their livestock are safe and free from contamination and that the food supply and their livelihoods are safe.

Farmer and Darlington Township Chair Mike Carreon, said “We, along with countless other local agricultural producers, have years invested in telling our stories and developing relationships with our

customers. The story of working in harmony with nature to produce a superior product, this story was ripped to pieces on the day of the derailment. It is now our responsibility to do damage control for Norfolk Southern's negligence while absorbing revenue loss of canceled orders. The economics of our industry is very emotionally driven. Emotions are now being driven by perception and lack of information. We need testing. We need factual information. We needed this yesterday, and we are still not seeing that response."

These residents are scared, particularly about the potential exposure that could lead to health impacts for themselves and their families for years. We do have a response, at least, for the future. We have a lot of work to do in the near-term, but the future has to be about passing the Railway Safety Act that Senator Brown, Senator Vance, Senator Fetterman and I and others are leading. It is bipartisan. That never happens around here on big bills, or rarely, I should say.

It would be a good start by Norfolk Southern to tell us today in addition to what they are going to do for the people of Ohio and Pennsylvania, tell us today that they support the bill. That would help, if a major rail company said, we support these reforms and will help you pass this bill. That is what I think the people of both States deserve.

Mr. Chairman, thank you for this time. I am grateful to be first in line. Thanks very much.

[The prepared statement of Senator Casey follows:]

TESTIMONY OF SENATOR ROBERT P. CASEY, JR. OF PENNSYLVANIA
BEFORE THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
HEARING ON PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT IN THE
WAKE OF THE NORFOLK SOUTHERN TRAIN DERAILMENT AND CHEMICAL
RELEASE IN EAST PALESTINE, OHIO
MARCH 9, 2023

Thank you, Chairman Carper, Ranking Member Capito, and Members of the Committee for holding today's hearing. I am grateful for the opportunity to speak before you today. I also want to thank my colleagues next to me, Senators Brown and Vance—as well as my Pennsylvania colleagues Senator Fetterman and Representative Deluzio—for their continued partnership working in the aftermath of this derailment.

Much of the attention has—rightfully—been focused on the impacts of East Palestine, Ohio. But the center of this derailment occurred just 1,000 feet from the Pennsylvania border. I am here today to lift up the voices and stories of residents, first responders, and businesses in Darlington Township, Pennsylvania.

This past Monday, I visited Darlington Township in Beaver County and saw firsthand how the community has been rocked by this tragedy. Approximately 135 households in Beaver County were advised to evacuate after the derailment. Even more residents across Beaver and Lawrence Counties saw a toxic plume cover their lands.

In the direct aftermath of the derailment, I have heard from first responders, including Police Officer Dan Frederick, about their experiences on the ground the night of the derailment. Dan shared with me, “As a first responder, particularly a police officer, we all know and understand the risks that come with our line of work. However, we usually know, or have an idea of when something, or someone can kill us. When I left my two boys, and wife to respond to the “hot zone”, I was expecting us to be informed of exactly what was on that train, and the potential health hazards...To say I was scared the night of the derailment is an understatement.”

I have also heard from residents about their fears of long-term health impacts and the safety of their families and communities moving forward. Jenny Santana of Darlington Township shared: “I want to know if it's safe to stay here. All of these people deserve honest answers. And nobody is getting them. If it were your children's lives in question, how far away for you would be safe? ... Please hold them accountable and make them help us.”

Farmers in the region are seeking clear and direct guidance from the Department of Agriculture. They want the certainty that their crops and livestock are safe and free of contamination and that the food supply and their livelihoods are safe. Farmer and Township Chair, Mike Carreon, aptly stated: “We along with countless other local agricultural producers have years invested in telling our stories and developing relationships with our customers. The stories of working in harmony with nature to produce a superior product. This story was ripped to pieces Feb 6. It is now our responsibility to do damage control for Norfolk Southern's negligence, while absorbing revenue loss of canceled orders. The economics of our industry is very emotionally driven. Emotions that

are now being driven by perception and lack of information. We need testing. We need factual information. We needed this yesterday, and we still are not seeing a response.”

Residents are scared, particularly of the potential exposures that could lead to health problems for themselves and their families. We need constant testing—potentially for years to come—for hazardous materials in these communities. I am pushing for better answers about what exposures may have happened and what we need to do to address the concerns we are hearing from the local community.

The people of Darlington didn’t ask for this disaster, nor do they deserve it. They don’t deserve the physical, emotional, and financial toll the derailment has taken. They are suffering from the consequences of Norfolk Southern’s crisis, and these problems aren’t going away overnight. But let’s be clear about who is at fault and who needs to step up and do their part: Norfolk Southern has a moral and legal responsibility to the people of Darlington and East Palestine to help them recover for years to come. We want to see details of that commitment, we want to see action, we want to see results, right now.

I have pressed Norfolk Southern on a number of issues since the derailment, but I want to raise one issue in particular. Along with Senator Fetterman and Representative Deluzio, I’ve pushed Norfolk Southern to focus on the basic help that Darlington Township residents are going to need. And though they responded quickly, their response was inadequate in meeting the needs of Pennsylvania residents.

So I’m here today challenging Norfolk Southern to step up. Commit to supporting Ohio and Pennsylvania residents, not just in the immediate aftermath, but for years to come. And—support our bill. Help us make sure this never happens again. Our bipartisan Railway Safety Act will make freight rail safer and hold rail companies accountable for putting communities and workers in harm’s way—with multimillion dollar penalties—rather than the tens of thousands that they face today. Norfolk Southern should stand up today and say they support our bill. That would be a good start to show that they never want this to happen again. And if they don’t, Pennsylvania and Ohio residents deserve to know why. So Mr. Chairman, I want to thank you for having this hearing and thank you for providing us with the opportunity to speak on behalf of our constituents.

Norfolk Southern CEO Hearing Statement:

Thank you, Chair Carper. I want to first recognize all of the Ohioans here this morning – Annie Vogel with the Ohio EPA, and all the residents of East Palestine who made the trip.

The mothers here today represent Ohioans in this tightknit town in Columbiana County, which once made 80 percent of the ceramics in this country, before those jobs – like so many in our state – moved overseas where companies pay workers less.

It's the kind of community that's so often forgotten or exploited by corporate America.

Now, these Ohioans are worried about whether their water is safe to drink and their air is safe to breathe, whether their kids will get sick, whether their crops are contaminated, whether they'll still be able to do business and attract investment to their community.

In my visits to East Palestine, I've talked with residents – Mayor Conaway, Fire Chief Drabick, business owners, parents. I've heard their fears for what this means for their town – for their futures.

All because a big corporation, Norfolk Southern, chose to invest much of its massive profits in making its executives and shareholders wealthier, at the expense of the Ohio communities along its rail tracks like East Palestine and Steubenville and Sandusky and Springfield.

The company followed the Wall Street business model: boost profits by cutting costs, at all costs – the consequences for places like East Palestine be damned.

In ten years, Norfolk Southern eliminated 38 percent of its workers.

Think of that – in a decade, they cut more than a third of their jobs.

And we've seen what the company did with their massive profits.

Norfolk Southern spent \$3.4 billion on stock buybacks last year. That's money that could have gone to hiring inspectors, to putting more hotbox detectors along its rail lines, to having more workers available to repair tracks and rail cars.

Norfolk Southern's profits have gone up and up...and look what happened.

The NTSB is conducting a “special investigation” into Norfolk Southern and its culture, investigating five significant accidents since December 2021 – including three accidents that resulted in the death of Norfolk Southern employee.

If Norfolk Southern had paid a little more attention to safety and a little less attention to its profits – had cared a little more about the Ohioans along its tracks, and a little less about its executives and shareholders – these accidents would not have been as bad, or might not have happened at all.

Just this week in Cleveland, a Norfolk Southern conductor and BLET member was killed on the job. Louis Shuster was the proud father to a 16 year old son.

It’s Norfolk Southern’s responsibility to keep its workers safe on the job. On Tuesday, Mr. Shuster went to work to do his job. But this company has failed to do its job, over and over.

[Pause]

When I talk with Ohioans about what they want to see from this company in response to the disaster in East Palestine, I hear two things:

First, Norfolk Southern must pay for every cent of the cleanup.

Every water test, every hotel room, every bottle of water, every hospital bill if an Ohioan comes down sick because of these contaminants next week, next year, for the next 10 years.

We know this company can afford it.

My colleague Senator Vance and I and our Ohio delegation – members of both parties – have come together to make those demands of Norfolk Southern.

Today, Ohioans expect to hear a firm commitment from this company's CEO that it will pay whatever it costs, for as long as it takes, to make this community whole.

Second, Ohioans want assurances that this will not happen again.

They have every right to be scared.

On Saturday evening, just a month after the company's disaster in East Palestine, another Norfolk Southern train derailed in Springfield, Ohio.

This time the cars that derailed weren't carrying hazardous materials – but other cars on the train were.

The only thing that saved Ohioans from another disaster was luck.

We need a little more than that.

It's why Senator Vance and I have come together to introduce our **bipartisan Railway Safety Act**, to **make trains safer** as they go through communities like East Palestine.

It shouldn't take a train derailment for elected officials to put partisanship aside and work together for the people we serve – not corporations like Norfolk Southern.

Lobbyists for the rail companies spent years fighting every effort to strengthen rules to make our trains and rail lines safer.

Now Ohioans are paying the price.

If this company is serious in its commitment to preventing more East Palestines all over Ohio and the country, I hope that today Mr. Shaw will endorse our commonsense, bipartisan plan.

Senator Vance and I come from different parties, but on this we've come together for the people of our state. I appreciate his work with us on this.

The response to this crisis has been far too partisan. Today is an opportunity to change that.

Senator Vance and I are both listening to the same Ohioans in this community – people who feel like they have no way to stand up to a company like Norfolk Southern, and are worried about what will happen when the cameras pack up and leave.

These Ohio communities have been abandoned too many times before.

My job – our job – is to be their voice, and to demand corporate accountability for bringing this town back to the vibrant Ohio community we know it can be.

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Senator CARPER. Thank you very, very much, Senator Casey.

Next, we are going to hear from Senator Sherrod Brown from Ohio. Senator Brown.

**OPENING STATEMENT OF HON. SHERROD BROWN,
U.S. SENATOR FROM THE STATE OF OHIO**

Senator BROWN. Mr. Chairman, thank you and Ranking Member Capito, thank you and Senator Merkley and Senator Mullin, thank you all for your thoughtful reflections and comments.

I want to recognize Ohioans this morning: Anne Vogel with the Ohio EPA, who has been onsite many times, including, I believe, every time I have been there, and the residents of East Palestine who made the trip, the mothers who talked about what this means to their family. They represent Ohioans in this tightknit town in Columbiana County, which once made 80 percent of the ceramics in this Country, tableware. They produced 80 percent for the whole Country in this community. They have seen their jobs move overseas, where companies pay workers less. That has been the story of far too many places in our States.

It is the kind of community that is so often forgotten or exploited by corporate America. Now, these Ohioans are worried about whether their water is safe to drink, the air is safe to breathe, whether their kids will get sick, whether their crops are contaminated, whether they will still be able to do business and attract investment to the community.

Like Senator Vance, in my visits to East Palestine, I have talked with residents, Mayor Conaway, Fire Chief Drabick, business owners, parents. I have heard their fears for what this means for their town and fears for the future.

All because a big corporation, Norfolk Southern, chose to invest much of its massive profits in making its executives and shareholders wealthy at the expense of Ohio communities along its rail tracks, like East Palestine, Steubenville, Sandusky, and just a week ago, Springfield.

The company followed the Wall Street business model: boost profits by cutting costs at all costs, the consequences for places like East Palestine be damned. In 10 years, Norfolk Southern eliminated 38 percent of its work force. Think of that, in a decade, they cut more than a third of their jobs. We have seen what the company did with their massive profits.

Norfolk Southern spent \$3.4 billion on stock buybacks last year and are planning to do even more this year. That is money that could have gone to hiring inspectors, to putting more hotbox detectors along its rail lines, having more workers available to repair cars and repair tracks.

Norfolk Southern's profits have gone up and up and up, and look what happened. The NTSB is conducting a special investigation into Norfolk Southern and its culture, investigating five significant accidents since December 2021, including three accidents that resulted in the death of a Norfolk Southern employee.

If Norfolk Southern had paid a little more attention to safety and a little less attention to its profits, had cared a little more about the Ohioans along its tracks and a little less about its executives

and shareholders, these accidents would not have been as bad or maybe not happened at all.

Just this week in Cleveland, a Norfolk Southern conductor and BLET union member was killed on the job. Louis Shuster was the proud father of a 16-year-old son.

It is Norfolk Southern's responsibility to keep its workers safe on the job, but this company has failed to do its job, over and over and over.

When I talk with Ohioans about what they want to see from this company in response to the disaster in East Palestine, I hear two things. First, Norfolk Southern must pay the money for every cent of the cleanup, as you have all said. Every water test, every hotel room, every bottle of water, every hospital bill if an Ohioan comes down sick because of the contaminants next week, next year, for the next several years. We know this company can afford it.

My colleague, Senator Vance, and I and our Ohio delegation, members of both parties, have come together to make these demands of Norfolk Southern. Today, Ohioans expect to hear a firm commitment from this company's CEO that it will pay whatever it costs for as long as it takes to make this community whole.

Second, Ohioans want assurances, as I think you all do, that this will not happen again. They have every right to be scared. On Saturday evening, just a month after the company's disaster in East Palestine, another Norfolk Southern train derailed in Springfield, Ohio. This time, the cars that derailed weren't carrying hazardous chemicals, but other cars on that 200-plus car train were. The only thing that saved Ohioans from another disaster was luck, but we need more than that.

This is why Senator Vance and I have come together to introduce our bipartisan Railway Safety Act to make trains safer as they go through community after community. It should not take a train derailment for elected officials to put partisanship aside and work together for the people whom we serve, not corporations like Norfolk Southern. Lobbyists for the rail companies have spent years fighting every effort to strengthen rules to make our trains and our rail lines safer. Now Ohioans are paying the price.

If this company is serious in its commitment to preventing more East Palestines in Ohio and across the Country, I hope today that Mr. Shaw, as Senator Casey said so emphatically, I hope today Mr. Shaw will endorse our commonsense, bipartisan plan.

Senator Vance and I come from different parties, different philosophies, but on this, we have come together for the people of our State. I appreciate his work on this. The response to this crisis has been far too partisan. As Senator Mullin said, today is an opportunity to change that.

Senator Vance and I are listening to the same Ohioans in this community, we both made numerous trips there, people who feel like they have no way to stand up to a company like Norfolk Southern and are worried about what will happen when the cameras pack up and leave that Columbiana County community.

These communities have been abandoned too many times before. My job, our job, is to hear their voice and to demand corporate accountability to bring this town back to the vibrant community we know that it can be again.

Thank you, Mr. Chair.

Senator CARPER. Thank you, Senator Brown.

Last, we want to recognize Senator J.D. Vance. Senator Vance, you may begin. Thank you.

**OPENING STATEMENT OF HON. JAMES DAVID VANCE,
U.S. SENATOR FROM THE STATE OF OHIO**

Senator VANCE. Great, thank you.

I want to start by acknowledging the people of East Palestine and at the Ohio EPA, who has done a great job on this tragedy and just say that I think that our leadership, our media, and our politicians were slow to respond to this crisis in part because a certain segment of our leadership feels like the people of East Palestine are a little out of style. They have the wrong politics, they are a little too rural, maybe a little too white.

I want to thank Senator Capito and Senator Carper, the Chairman and Ranking Member, and all of you for paying attention to this, for caring about this issue, and for showing leadership on it. I think the most important message to the people of East Palestine is that we will not forget about them in the months and the years to come. I think this committee hearing reinforces that message. It is very personally meaningful for me to be here.

I want to also talk about something that hasn't gotten enough attention, but I think is an important part of what is going on on the ground right now in East Palestine, which is the cleanup of the toxic chemicals that are in the ground, and they are still in the ground.

Two weeks ago, I would have told you, and I said very publicly that I was frustrated with Norfolk Southern from Alan Shaw on down for the refusal to dig up the railroad tracks and dig out the toxic chemicals, which is their responsibility to do. I am happy to report that it appears that Norfolk Southern has finally started to do the cleanup in earnest, but now the EPA is making it harder to get the materials out of Ohio in the first place into properly licensed facilities.

Right now, as we speak, there are piles of dirt accumulating in East Palestine, piles of dirt filled with toxic chemicals that have not been moved out of the State in a week. What happens if it rains? What happens if the very toxic dirt that we just dug out of the ground begins to seep back into the ground, causing problems for the air and water for the residents of East Palestine?

We need leadership. We need the EPA to get on the ground and aggressively get this stuff out of East Palestine into properly licensed facilities. It is maybe the most important and most pressing thing that is confronting the community of East Palestine today. Again, I thank Anne for her leadership on that particular issue.

After the cleanup, we are focused on the cleanup now, justifiably so, but after the cleanup, we need to turn to how to prevent this from happening, or at least how to make it less likely. I am a realist. I recognize that you are always going to have accidents, but I think that we can make them less likely, and I think, importantly, we can give our first responders proper notice when they are responding to these derailments when they happen. It is ridiculous that fire fighters and local officials do not know that hazardous

chemicals are in their community, coming through their community.

In East Palestine, you had a community of largely volunteer fire fighters responding to a terrible crisis, toxic, burning chemicals, without knowing what was on them. It is one of the things in that legislation that Senator Brown, Senator Casey, and Senator Fetterman and I have worked on together, and I thank them for their work on that issue.

I want to leave the committee with just a couple of additional thoughts here. I am a Republican. I am a pretty conservative Republican, and I worry that there has been a movement in my party and in my movement in response to the legislation that I proposed that would not hold Norfolk Southern or the rail industry accountable. I want to be explicit about that.

I am not talking about returning, and this bill is not returning, to the days of rate-setting. The 1980's level airline and rail deregulation, I think, in a lot of ways, was good for consumers and good for the industry, but that doesn't mean we cannot have reasonable public safety enhancements in response to what happened in East Palestine.

I have talked to a number of my Republican colleagues, and nearly everybody has dealt in complete good faith, whether they like the bill or have some concerns about it, and these comments are not directed at them. Who they are directed at is a particular slice of people who seem to think that any public safety enhancements for the rail industry is somehow a violation of the free market.

If you look at this industry and what has happened in the last 30 years, that argument is a farce. This is an industry that enjoys special subsidies that almost no industry enjoys. This is an industry that enjoys special legal carveouts that almost no industry enjoys.

This is an industry that just 3 months ago had the Federal Government come in and save them from a labor dispute. It was effectively a bailout, and now they are claiming before the Senate and the House that our reasonable regulation, our reasonable legislation, is somehow a violation of the free market? Well, pot, meet the kettle, because that doesn't make an ounce of sense. You cannot claim special government privileges. You cannot ask the government to bail you out and then resist basic public safety.

Let me just say this. You have heard a lot of talk from my fellow Republicans, and I think that talk is very justified, that we are the party of working people in this Country. There has been a big political realignment in this Country over the last 30 years, a political realignment that, frankly, I benefited from. We are the party of firefighters, of police officers, of the people who go to work, pay their taxes, fight our Country's wars, and keep our communities safe. We are proud of that, and we should be proud of that on the Republican party.

Now we are faced with a choice. With this legislation and how we respond to this crisis, do we do the bidding of a massive industry that is in bed with big government, or do we do the bidding of the people who elected us to the Senate and to the Congress in the first place?

I believe that we are the party of working people, but it is time to be the party of working people. We have a choice. Are we for big business and big government, or are we for the people of East Palestine? It is a time for choosing. Let's make the right one.

[The prepared statement of Senator Vance follows:]



Statement of Senator JD Vance of Ohio

Before the Committee on Environment and Public Works

Thursday, March 9, 2023

This is the first congressional hearing on the calamity which occurred on February 3rd at East Palestine, Ohio. That night, at about eleven o'clock, 38 rail cars in a 149-car train derailed. Eleven of the cars contained hazardous materials, including nearly 900,000 pounds of vinyl chloride, a carcinogenic, flammable gas. These vinyl chloride cars were deliberately breached, and vented into the environment as a result of a controlled burn on February 4th. Breaches in other derailed tank cars released additional hazardous chemicals, around another 800,000 pounds. These chemicals entered the air and water of the surrounding residential areas, the closest of which is only 1,000 feet from the site of the accident. The company responsible for the train and the track is Norfolk Southern.

A mandatory evacuation was ordered, and thousands of people fled their homes, afraid of chemicals seeping into their water and shrapnel raining from the sky. There was a plume of smoke, thousands of feet high, visible for miles, and burning fires for days. 40,000 fish have died. I have seen myself the chemical slicks in the water, and smelled the chemical odors in the air. We need to fix this. America and its leaders must act.

For days this biblical scene was ignored by the national media and the Biden administration. It took social media, efforts by Governor DeWine, myself, Senator Brown, our congressional delegation, and President Trump to get the situation the attention it deserved. On February 13, Secretary Buttigieg was still focused on the pressing problem of too many white men in the construction industry. It took him another 10 days to visit. While 5,000 Americans fled their homes under a mandatory evacuation order, the political leadership of our nation was focused on how best to hand out racial patronage.

The residents of East Palestine are not the type of people who elicit the sympathy of the bicoastal elite: they're too white, too rural, and too conservative. Those sympathies now seem to be reserved for Ukrainians, extreme sexual minorities, and criminals. Their affection extends to everyone except Americans in our own heartland.

Instead, towns like East Palestine become worthy of notice only when their values can be used in cheap propaganda to flatter the self-image of the elite. Unfortunately for this self-image, which assumes the prosperity of the city and the deprivation of the country, it is heartland labor, heartland sweat, and heartland peril that keeps them clothed and heated. It is the East Palestinians and their people who can survive without the managerial class. It is the managers who cannot survive without them.

East Palestinians are now wondering if their homes are safe. If their lives will ever return to normal. If their livelihoods can be resumed without the possibility that they are being invisibly poisoned. This is a rich country. We have the means and the responsibility to ensure that this town and its people return to normal. I will not stop pressing until the citizens of East Palestine have returned to the regular rhythms of their lives. This town must be made as whole as government action can make it.

On February 21st, the EPA announced that they had taken over the site, and that they were going to be running the cleanup. Unfortunately, this announcement, like so many made by the Biden administration, had only a tenuous relationship to reality. The Governor of Michigan, an administration ally and rising democratic star, leapt to prevent the waste from being transported to her state. Other states soon raised their own objections, and for nearly a week a vast hill of poison soil has sat there, basically in the middle of town, kicked up by passing trains for children to breathe, falling to earth to leach into the drinking water. I'm told the waste is being moved once again after it tested negative for dioxins, but that the administrator himself has to sign off on its individual movements. Let's stop playing politics, and get this stuff to places where it can't hurt anyone else.

Our other first priority must also be to ensure that the railways are safe, and reduce the possibility that another small town is going to join the grim roll call of fatal railroad accidents. Just this week we had another lethal accident, again with a Norfolk Southern train. Senators Brown, Casey, Hawley, Rubio, Fetterman and I have come together to introduce a bill, the Railway Safety Act, which would make some modest steps towards making the railroads safer. That sound you hear is machinery of the railway lobby grinding into action to demagogue against this legislation. It is a great and influential mechanism, fueled by great profits. They will deploy the usual corporate rhetoric in hopes that they can forestall action from this body.

What I would urge Senators and members of the House to keep in mind is that safety regulation is only one part of a larger scheme, one in which the government has granted the railroads extraordinary special privileges, privileges afforded to no other industry. We should consider it within this context. It is within the near memory of everyone in this chamber that the Congress bailed out the railroads by cramming down a federally negotiated deal on the railway labor unions, against the wishes of their workers. Many voted against this, but can any senator here think of another industry for whom they have settled a labor dispute? I doubt even the most pro-management legislator would support doing this with any regularity for other firms. But we have done it, and some may likely do it again on behalf of the railroads. This industry enjoys special privileges, provided by the government, that no other can lay claim to.

The government, and the taxpayers that it represents, has given these companies a great deal. In return, they have created a culture of risky behavior that puts Americans, in particular rural Americans, at extraordinary risk. Since 2000, the federal government has given Norfolk Southern and its subsidiaries nearly \$10M in subsidies. The law that the EPA has used to force Norfolk Southern to take over the site of the accident, the Comprehensive Environmental Response, Compensation, and Liability Act, doesn't require the railroads to cover economic losses. If you're an oil company, and you have a spill, the Oil Pollution Act will require you to cover tax losses, impairments to earnings, earning capacity reductions, and medical losses.

Economic damages are left to the tort system. Norfolk Southern is treated better than ExxonMobil or BP.

In order for Railroad employees to get workman's compensation, they have to prove negligence by the railroad. Workman's compensation for basically every other industry is no-fault. Railroads have seen a greater and greater reduction in the scope and applicability of their common carrier obligation but have not seen any reduction in their right to create interstate rights of way. The 1980 Staggers Rail Act radically reduced the obligations that the railroads had on rates and increased the ability of the railroads to abandon unprofitable lines.

The decline in antitrust enforcement has enabled the rise of the captive shipper. Many rail-dependent shippers are "captive." These shippers must use rail to move their freight while having access to only one railroad, meaning that the shipper is "captive" to that railroad and at its mercy regarding rates and terms of service. Other "rail-dependent shippers" also must use rail, but are connected to more than one railroad and only one railroad will compete for its business. Rail rates have risen two and half times the level of inflation and two and a half times the level of trucking rates. According to a trade group, approximately 78 percent of customers who ship products and feedstock in the United States are captive shippers.

The railroad lobby and events have gradually thrown the architecture that Congress created to regulate this industry further and further out of balance. At this point, it is all privilege, and no responsibility. Our federal government, including this body, has subsidized the industry's dangers and socialized its risks.

The Railway Safety Act puts a small weight back on the other side of the scale.

There are some who have suggested that the Railway Safety Act isn't needed or that the rail industry is 99.9 percent successful. I object to the characterization of this radically individualist notion as somehow conservative. Any ideology which defends inaction in the face of communities being wiped off the map through environmental happenstance is not conservative, but radical. It necessarily subordinates human life and community to a false ideal of the market somehow existing independent of our society. The market exists for the benefit of places like East Palestine, not the reverse.

East Palestine has existed for 195 years, since 1828. They called it East Palestine because there was already a West Palestine, not in the Middle East, but in Ohio. Columbiana County was the site of a way station on the Underground Railroad, as well as significant abolitionist sentiment. One of John Brown's soldiers is buried twenty miles up the road, in Salem. It was said, in reference to the Civil War, that "no other county in [Ohio] proved more ready to furnish its full quota of men for the suppression of the Rebellion." These are Americans, they are our people, and their part in the warp and weft of our history should not end with this disaster.

The strength of the thread is the strength of the fabric. It's something we've forgotten and remembered, again and again, through the American System, the New Deal, and the Civil Rights Movement. Let's take this opportunity over the coming months to remember again, and show

that this chamber can act together for the nation's benefit. The Senate should pass the Railway Safety Act, and the Senate should pass relief for East Palestine.

Senator CARPER. Thank you very, very much, Senator Vance. Thank you, Senator Brown.

My colleagues on this committee have heard me say more than a few times, bipartisan solutions are lasting solutions. I am encouraged that there is a bipartisan spirit afoot here. I would urge you to continue to grow that. We will try to kindle support for it, as well.

With that having been said, we are going to recognize our next panel of witnesses. I want to call the second panel of witnesses to come forward. The first witness will be Mr. Shaw. In addition to Mr. Shaw, we will be hearing from Debra Shore, the Regional Administrator for Region V of the Environmental Protection Agency.

Good morning, one and all. I think I have had a chance to welcome you individually and personally. We appreciate very much not only your presence here, but your willingness to share your thoughts and ideas with us as we try to make right a terrible wrong.

We are going to turn to our first witness, Alan Shaw. I appreciate the time you spent with me on the phone earlier this week. Mr. Shaw, you may begin your testimony at this time. Thank you. Welcome.

STATEMENT OF ALAN SHAW, PRESIDENT AND CEO, NORFOLK SOUTHERN CORPORATION

Mr. SHAW. Good morning, Chairman Carper, Ranking Member Capito, and distinguished members of the committee. I appreciate the opportunity to testify before you today.

My name is Alan Shaw, and I have been President and CEO of Norfolk Southern since May 2022. I want to begin today by expressing how deeply sorry I am for the impact this derailment has had on the residents of East Palestine and the surrounding communities.

I have been to East Palestine many times over the past month. I have talked with the leaders, the business owners, the school officials, the clergy, and others throughout the community. They have shared their stories and their concerns about the health of their families and the future of the community they love.

I am determined to make this right. Norfolk Southern will clean the site safely, thoroughly, and with urgency. You have my personal commitment. Norfolk Southern will get the job done and help East Palestine thrive. At the direction of, and in collaboration with, the U.S. EPA, State and local agencies, we are developing and implementing near-and longer-term cleanup activities.

Air and water monitoring have been in place continuously since the accident, and to date, it consistently indicated that the air is safe to breathe and the water is safe to drink.

In terms of community support, we have announced direct investments of over \$21 million. We have provided support to more than 4,400 families through Norfolk Southern's Family Assistance Center. We established a \$1 million fund available immediately to community leaders who will identify where donations can do the most good for East Palestine.

We committed \$7.5 million to Pennsylvania for a community relief fund, and we are reimbursing Pennsylvania emergency re-

sponders and health and environmental agencies for costs related to the derailment.

All of this is just a down payment. We recently signed a lease for a more permanent space in East Palestine. I asked one of our front-line railroaders, who lives in East Palestine, to take on a new role as a full-time liaison reporting directly to my office. He is advocating for the community in my office and overseeing distribution of another \$1 million. We will be in the community for as long as it takes.

To be clear, there are no strings attached to our assistance. If residents have a concern, we want them to come talk to us. Our website, nsmakingitright.com, provides the latest information and details on how to reach us.

We have been cooperating fully with the NTSB's investigation into the cause of the derailment. The preliminary report found that the Norfolk Southern crew was operating the train below the speed limit and in an approved manner, yet it is clear the safety mechanisms in place were not enough.

As the NTSB continues its work, we are not waiting to act. Shortly after the derailment, I instructed my team to look at steps we could take to improve safety immediately. We have announced a number of initiatives to do just that.

These steps are just a start, and we look forward to working with policymakers and industry on others. We are also going to make our safety culture the best in the industry.

The events of the last month are not who we are as a company. When I began my tenure as CEO 10 months ago, I spent hours in crew rooms all over our 22-State network, thanking our front-line railroaders and asking them for their advice. They are proud of the important work they do for the U.S. economy and take safety seriously.

I am going to make sure they have the right training, the right processes, the right equipment, and the right technology. You have my commitment on that.

Since becoming CEO, I have dedicated our company to charting a new course in the industry. I intend to continue working with industry stakeholders, including railcar owners, lessors, shippers, and other railroads to make industry-wide safety improvements. It is going to take all of us, and Norfolk Southern is eager to lead that effort.

Today, I am proud to represent more than 19,700 Norfolk Southern employees who work every day to offer a safe and efficient means of transporting goods to businesses and families across our great Country. When Norfolk Southern is successful, it is because our craft railroaders are getting the job done for our customers and the U.S. economy.

Thank you again for the opportunity to appear before you today. I look forward to your questions.

[The prepared statement of Mr. Shaw follows:]



**HEARING BEFORE
THE UNITED STATES SENATE COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS**

March 9, 2023

Testimony of Alan Shaw

President and Chief Executive Officer, Norfolk Southern Corporation

Chairman Carper, Ranking Member Capito, and distinguished members of the Committee, thank you for the opportunity to appear today to discuss the train derailment in East Palestine, Ohio.

My name is Alan Shaw, and I have been the President and CEO of Norfolk Southern since May 2022. I look forward today to sharing our progress cleaning the derailment site, assisting families whose lives were disrupted, investing in the community, and making Norfolk Southern and the railroad industry safer. I am deeply sorry for the impact this derailment has had on the people of East Palestine and surrounding communities, and I am determined to make it right.

We will clean the site safely, thoroughly, and with urgency. We are making progress every day. Working now under the U.S. Environmental Protection Agency's recent Unilateral Administrative Order, we have submitted a long-term removal plan that will guide our comprehensive testing program for the community's water, air, and soil. That testing is guided by science, and we will continue to share the results transparently. The Ohio and U.S. Environmental Protection Agencies, as well as other local agencies, are continually monitoring the air and water quality in East Palestine and report that both the air and water are safe.

Financial assistance cannot change what happened, but it is an important part of doing the right thing. To date, we have committed to reimbursements and investments of more than \$20 million in total, including by helping more than 4,200 families through our Family Assistance Center located in East Palestine. Supporting first responders has been a particular area of focus, and our contributions include more than \$3 million to assist the East Palestine Fire Department. I would like to express again my profound admiration for the first responders from Ohio, Pennsylvania, and West Virginia who responded to the derailment.

I want to be clear: this financial assistance is just a down payment. I've met with community leaders, business owners, school officials, clergy, and others to begin to identify ways we can invest in the future prosperity of East Palestine and support the long-term needs of its people.

We will continue to invest in East Palestine for as long as it takes to help the community recover and thrive.

We are also committed to learning from this accident and working with public officials and the industry to make railroads even safer. In the meantime, we have already launched a series of immediate steps to enhance safety, based on the facts in the National Transportation Safety Board's preliminary report. We look forward to cooperating with the NTSB as it continues its investigation into the root cause of the accident as well as its wider investigation.

I. Our Commitment to Remediation and Monitoring

I have visited the East Palestine area frequently since the accident. I've met with residents of the community. I've heard their concerns, and I understand why they are worried. Their feedback has informed our approach. Norfolk Southern is working around the clock to remediate the remaining issues and monitor for any impact on public health and the environment. We continue to work in close coordination with federal, state, and local governments and others to conduct environmental monitoring and to develop and carry out near- and longer-term clean-up activities. The remediation plan and each step of our longer-term efforts will be implemented at the direction of the U.S. EPA pursuant to the Agency's Unilateral Administrative Order.

Norfolk Southern specialists remain on-scene, assisted by multiple derailment and environmental contractors. These teams have contained, diverted, and treated affected portions of nearby waterways, have flushed nearly a mile of surface waterways, and are capturing rainwater within the contaminated areas for temporary storage and disposal. To date, we have recovered and transported more than 3.5 million gallons of potentially affected water from the site for disposal at EPA-approved facilities.

We also are working to safely remove affected soil, and our crews have removed more than 2,300 tons from the site. We have removed waste to landfills specifically engineered and permitted to safely handle this type of material. Our work will continue until the job is done.

To date, monitoring of East Palestine's public drinking water and private water wells by multiple state and local authorities and Norfolk Southern shows that the water is safe to drink and there are no harmful levels of substances related to the derailment. Beginning immediately after the derailment and now at the direction of the U.S. EPA, we have implemented a comprehensive testing program to monitor the quality of the community's air. The U.S. EPA has monitored air near schools and residential areas, in several government buildings, upwind of the derailment site, and downwind of the derailment area. Norfolk Southern's outdoor air monitoring program has collected millions of data points from around the derailment site and throughout the community. The results of these tests continue to demonstrate that the air is safe to breathe. In addition, in consultation with the U.S. EPA, we have been performing indoor air quality screening for residents. To date, nearly 600 homes have been screened; none of the results indicate a health risk from incident-related substances.

We continue to listen to the experts and cooperate with state, federal, and local government agencies. We are committed to this monitoring for as long as necessary. We have also created a

website, NSMakingItRight.com, to provide the latest information to residents of East Palestine and the surrounding communities.

II. Our Commitment to the Community

I want the people of East Palestine and the surrounding communities to know that Norfolk Southern and I are deeply committed to them and their recovery. To date, we have invested more than \$13 million as a down payment and provided support to more than 4,200 families through our Family Assistance Center in East Palestine, including:

- More than \$3 million in reimbursements and support to the East Palestine Fire Department for fire equipment used in the derailment response;
- A \$1 million fund available immediately to community leaders to identify where donations can do the most good;
- Another \$1 million fund to support the immediate needs of the community, overseen by a Norfolk Southern craft railroader who lives in East Palestine and has been hired to serve as a community liaison, reporting directly to my office;
- \$300,000 to the East Palestine City School District to support the district's academics, athletics, extracurricular activities, and long-term contingency planning regarding the impacts of the derailment;
- Funding and coordination of cleaning and air monitoring services for the East Palestine Elementary and High Schools; and
- \$65,000 to the East Palestine Youth Sports Association to allow children to play in sports leagues for free for the year.

We have committed another \$7.5 million in financial assistance to reimburse Pennsylvania emergency responders and health and environmental agencies for costs related to the derailment. And I personally have committed almost \$450,000 to fund scholarships for seniors at East Palestine High School.

In addition to the nearly 200 Norfolk Southern employees and contractors who have been in East Palestine to help with remediation and financial assistance, we also have many employee volunteers who have come to the community to help. To offer just one example of how they are finding ways big and small to make a difference, our new community liaison recently observed that a local flower shop missed out on one of its biggest sales days of the year, Valentine's Day, due to the disruption caused by the derailment. He ordered 100 bouquets of flowers from the shop and, with the help of our volunteers, distributed them to residents at a local assisted living community. That is the Norfolk Southern culture in action, and I could not be prouder.

Again, this is a down payment. I am going to see this through. There are no strings attached to our assistance—if residents have a concern, we want them to come talk to us. I understand how much East Palestine means to each resident, and we are committed to making this right.

III. Our Focus on Safety

We are committed to making the rail industry safer. We will analyze and address the NTSB's investigation results when they are available, but we are not waiting to act.

The NTSB's preliminary report released last month reflected that the Norfolk Southern crew was operating the train within our protocols and below the speed limit. The sensors in place to identify overheated axles operated properly, and the crew took the appropriate action when they received the alert. We currently spend \$1 billion a year on technologies, equipment, and infrastructure to enhance safety. But the safety mechanisms in place did not prevent this accident, so we are focused on learning from this incident and working with industry to make changes.

The morning after the derailment, I spoke to NTSB Chair Jennifer Homendy and pledged the full cooperation of Norfolk Southern in the NTSB's investigation. Chair Homendy has said publicly that the derailment occurred at the twenty-third car, a hopper car, with a particular focus on a catastrophic failure of the wheel bearing on this car. This car carried plastic pellets, and it was the combination of those pellets and a hot axle that appear to have started the fire. Neither Norfolk Southern nor the other Class I railroads own plastic-pellet hopper cars. That's one reason why an industry-wide comprehensive approach, including railcar owners, car manufacturers, leasing companies, equipment makers, and the railroad companies, is essential to help improve safety as the rail industry continues to provide the logistical infrastructure that enables the United States' economy to grow. It's going to take all of us—and we're eager to lead that effort.

As an initial step—and focusing on what we can do on our own—we are making our network of early-warning sensors stronger. Shortly after the derailment, I instructed my team to immediately look at steps we can take to improve safety further, and we are taking the following actions:

- Enhancing the hot bearing detector network;
- Piloting next-generation hot bearing detectors;
- Deploying more acoustic bearing detectors;
- Accelerating our Digital Train Inspection program; and
- Analyzing—with others in the industry—available data for patterns that could provide earlier warnings of potential safety issues, and partnering with other railroads to review best practices, including how the industry should respond to high-temperature alarms.

An essential part of our effort to make Norfolk Southern an even safer company is to further strengthen our safety culture. To describe how we are doing that, I would like to provide some important context on the new strategy we announced for Norfolk Southern at the end of last year.

In a significant departure from the railroad industry's recent past, we deliberately moved away from a singular focus on operating ratio, which is a common industry measure of efficiency. Instead, we are taking a more balanced approach to service, productivity, and growth.

As just one example of what our strategy means in practice, instead of furloughing workers during periodic economic downturns, we intend to use the opportunity to invest in our workforce and provide additional training. When we do that, it makes us a more resilient company that is better able to serve our customers, and it creates more career opportunities for our craft railroaders. We hired craft railroaders aggressively throughout 2022 and continue to do so this year.

Our new strategy goes hand-in-hand with our intensified focus on culture and employee engagement, with an emphasis on transparency and collaboration. I know that when Norfolk Southern is successful, it is because our craft colleagues are getting the job done for our customers and the U.S. economy. I have spent countless hours in the field in the 10 months I have served as CEO, thanking our front-line railroaders for their service and listening to their ideas on how to make Norfolk Southern better.

When we completed the recent round of national labor negotiations, with a historic and well-deserved 24 percent pay increase, I committed immediately to begin negotiations at the local level on quality-of-life issues like paid sick leave. We did what we said we were going to do and have already reached agreements on paid sick leave with three of our unions.

IV. Our Commitment to Industry Action

We are working with others in the industry in moving forward. All seven Class 1 railroads recently announced that we will join the Federal Railroad Administration's (FRA) Confidential Close Call Reporting System (C3RS). Norfolk Southern was already actively participating in the C3RS Working Group that is part of the Department of Transportation's Railroad Safety Advisory Committee. With all Class 1 carriers joining the FRA's program, Norfolk Southern is building upon its own long-standing Close Call Experience Program.

And we believe it is important that we leverage Norfolk Southern's data, as well as data from industry partners, to reevaluate alarm threshold temperatures for bearing heat sensors. Norfolk Southern's wayside detectors trigger an alarm at a temperature threshold that is among the lowest in the rail industry. Our wayside heat detectors are regularly inspected every 30 days and are spaced more closely than many others in the industry. We are also exploring new technologies and refinements to current systems.

V. Conclusion

Finally, Chairman Carper, Senator Capito and members of the Committee, I want to state again how deeply sorry we are for the impact of this derailment on East Palestine, surrounding communities and all of the people who have been affected. We are making progress in the recovery and know our work is not yet done. On behalf of the more than 19,700 hard-working employees of Norfolk Southern, I pledge that we won't be finished until we make it right. Thank you for the opportunity to testify before you today, and I look forward to your questions.

WILMERHALE

April 16, 2023

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Chairman Thomas R. Carper
Ranking Member Shelley Moore Capito
Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Carper, Ranking Member Capito, and Members of the Committee,

Thank you for your questions for the record from the Committee on Environment and Public Works' March 9, 2023 hearing entitled "Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train Derailment and Chemical Release in East Palestine, Ohio." Per your request, attached are the answers for the record to your questions.

Sincerely,

/s/ Joel Green

Joel Green

Senate Committee on Environment and Public Works
Hearing Entitled, “Protecting Public Health and the Environment in the Wake of the Norfolk
Southern Train Derailment and Chemical Release in East Palestine, Ohio”
March 9, 2023
Responses to Questions for the Record

*** *** ***

I. Questions from Chairman Carper

Question 1. Can you describe what was on this train, where it was traveling from and where it was headed?

On February 3, 2023, Norfolk Southern Railway freight Train 32N was traveling eastbound from Madison, Illinois to Conway, Pennsylvania.¹ Train 32N was transporting various goods and commodities.

Question 2. What company or companies owned the vinyl chloride and other spilled chemicals transported on this train?

We understand that Occidental Chemical was the owner and manufacturer of the vinyl chloride contained in the referenced five tank cars.

As indicated by the NTSB preliminary report, five derailed tank cars containing vinyl chloride were of concern to authorities. The contents were disposed of through a controlled vent and burn process to mitigate the growing risk of an explosion.²

Question 3. When did Norfolk Southern emergency response staff first arrive on the scene?

Our understanding is that Norfolk Southern personnel arrived on scene shortly after the accident. Almost immediately, we dispatched our expert hazardous materials contractors and Norfolk Southern hazardous materials personnel, who also arrived on the scene quickly, and worked with first responders to help ensure they operated safely.

Question 4. What was Norfolk Southern’s initial role within the Unified Command Structure?

a. Over time, how did your role change?

¹ NTSB Preliminary Report dated February 23, 2023.
<https://www.nts.gov/investigations/Documents/RRD23MR005%20East%20Palestine%20OH%20Prelim.pdf>.

² *Id.*

Throughout the response, Norfolk Southern has provided information to the Incident Commander, who leads the decision-making in the Unified Command,¹ in consultation with local, state, and federal officials, and with input from Norfolk Southern experts. Within the framework of the Unified Command, Norfolk Southern's role shortly after the incident was to bring the best set of information to Unified Command leadership for their input and consideration and to support their objectives, through the leadership of East Palestine Fire's Chief, the Incident Commander in charge of the local response effort.

The U.S. EPA revised the Unified Command structure following its issuance of the Unilateral Administrative Order on February 21, 2023. The current Unified Command is comprised of U.S. EPA, Columbiana County Emergency Management Agency, the Village of East Palestine, Ohio EPA, and Norfolk Southern. The Unified Command is assisted by various "Cooperating and Assisting Agencies," consisting of various federal, state, and local organizations.

Question 5. Please explain if and how Norfolk Southern consulted with Governor DeWine, the Ohio EPA, U.S. EPA, emergency responders, and other entities in making the decision to do a controlled burn of the vinyl chloride?

- a. Please explain if and how Norfolk Southern consulted with public health professionals, toxicologists or medical professionals in making the decision to do a controlled burn of the vinyl chloride?**
- b. Under what circumstances is a controlled burn necessary to avoid explosion?**
- c. What alternative approaches to controlled burn were or could have been considered here, and were they less likely to cause a massive release of toxic air pollution?**

The Unified Command, under the leadership of the Incident Commander in charge of the local response effort, in consultation with local, state, and federal officials, and with input from Norfolk Southern, carefully considered various options to bring the incident safely under control. As a member of the Unified Command, Norfolk Southern communicated frequently with the Incident Commander and with other local, state, and federal personnel on the scene. The Governors of Ohio and Pennsylvania, the Mayor of East Palestine, the East Palestine Fire Chief, the National Guard, and Norfolk Southern, as well as local, state, and federal personnel, were all involved in responding to the incident and focused on the safety and well-being of the community.

Based on the monitoring of the derailed cars, Norfolk Southern, its experts, and others in the Unified Command were concerned about the pressure in the cars containing vinyl chloride. The experts were telling us that these cars were at risk of catastrophic tank rupture that would have resulted in an uncontrolled release of hazardous materials and shrapnel into the community at-large.

The Unified Command considered various options to deal with the risk of catastrophic tank rupture, and the discussions involved significant stakeholders. The alternatives considered by the Unified Command included (1) transferring the cars using valves on top of the cars, or (2)

“hot tapping” the cars, which involves drilling a hole and welding a vent onto the car by hand. These procedures were deemed not likely to succeed and unsafe.² Norfolk Southern’s understanding from the experts was that the controlled release-and-burn was the safest course of action under the circumstances. A controlled release-and-burn is an emergency response procedure specifically designed and used in tank car derailments involving hazardous materials. The Federal Railroad Administration developed procedures for the controlled release-and-burn in the early 1990s to give the industry guidance in performing this safety maneuver. Here, the procedure worked as planned and helped avoid a catastrophic explosion.

Question 6. How many trains does Norfolk Southern have carrying hazardous materials at any given time across the United States?

a. How often does Norfolk Southern have trains with nineteen hazardous materials cars in a row, or a total of twenty-nine throughout the train?

Based on 2022 data, nearly 60% of Norfolk Southern’s trains did not transport any hazardous material. Roughly 40% of trains transported at least one railcar with hazardous materials during a portion of the route.

b. Can you explain the concept of a “key” train to us, and why this train wasn’t considered a key train subject to more stringent rules?

The American Association of Railroads (“AAR”) defines a key train as “any train with:

- One tank car load of Poison or Toxic Inhalation Hazard1 (“PIH” or “TIH”) (Hazard Zone A, B, C, or D), anhydrous ammonia (UN1005), or ammonia solutions (UN3318), or;
- 20 car loads or intermodal portable tank loads of any combination of hazardous material, or;
- One or more car loads of Spent Nuclear Fuel (“SNF”), High Level Radioactive Waste (“HLRW”).”³

This is an industry-defined term that is promulgated by AARs’ Safety and Operations Department.⁴

The train that derailed in East Palestine had fewer than 20 cars of hazardous materials and it did not satisfy any of the other criteria above.

c. How many trains are considered “key” trains, while how many other trains have hazardous materials but aren’t considered “key” trains?

Based on 2022 data, approximately 10% of Norfolk Southern’s trains were designated “key” trains for at least some portion of a route. Nearly 60% of Norfolk Southern’s trains did not carry hazardous materials on any portion of their route.

³ Association of American Railroads, Circular OT-55 1 (May 1, 2019) <https://public.railinc.com/sites/default/files/documents/OT-55.pdf>.

⁴ *Id.*

Question 7. How would improved wayside detectors, electronic braking systems, and more routine maintenance impact the likelihood of train derailments?

- a. How are these systems currently regulated?**
- b. How could additional regulations, going beyond voluntary or inconsistent use, help prevent future train derailments?**

We are evaluating our operations, including practices around the use of wayside detectors, and are committed to making Norfolk Southern even safer. We monitor our trains and infrastructure diligently to identify potential hazards. We invest over \$1 billion every year on technologies, equipment, and infrastructure to enhance the safety of our rail operations, and another \$1 billion on ongoing operations in support of safety.

We have already taken proactive steps regarding wayside detectors and maintenance efforts. For example, we inspected nearly 1,000 hot bearing detectors on our system, above and beyond our normal 30-day inspection cycle. Norfolk Southern also recently announced a six-point plan to drive an industry-wide effort to enhance the safety of rail operations:

- **Enhance the hot bearing detector network.** Norfolk Southern is evaluating the distance between hot bearing detectors, which currently averages 13.9 miles on its core network. The company will examine every location on its core network where the distance is more than 15 miles and develop a plan to deploy additional detectors, where practical, due to terrain and operating conditions. The company anticipates adding approximately 200 hot bearing detectors to its network, with the first already installed on the western and eastern approaches to East Palestine.
- **Pilot next-generation hot bearing detectors.** Norfolk Southern is working with manufacturers to accelerate the testing and deployment of new safety technology on its network that can scan a greater cross-section of a railcar's bearings and wheels. These so-called "multi-scan" hot bearing detectors may offer the potential to catch overheated bearings more effectively.
- **Work with industry on practices for hot bearing detectors.** Norfolk Southern intends to work with the industry on a comprehensive review of standards and practices for the use of hot bearing detectors. In addition to reevaluating the temperature threshold at which an alarm is triggered, the company plans to work with peers to analyze data for patterns that could provide earlier warnings of potential safety issues. Norfolk Southern also plans to partner with other railroads to review best practices, including response to high-temperature alarms.
- **Deploy more acoustic bearing detectors.** In addition to enhancing its use of hot bearing detectors, Norfolk Southern will immediately accelerate the deployment of acoustic bearing detectors, which play a different role in its safety inspection program. These detectors analyze the acoustic signature of vibration inside the axle and can identify potential problems that a visual inspection could not. Norfolk Southern is now planning

to quadruple the number of detectors in service, stationing these devices on high-traffic routes around our core network. This will strengthen the early-warning system that identifies potential risks before they become issues.

- **Accelerate our Digital Train Inspection program.** Norfolk Southern is partnering with Georgia Tech Research Institute to develop a next generation of its most advanced safety inspection technology, which uses machine vision and algorithms powered by artificial intelligence to identify defects and needed repairs much more effectively than traditional human inspection. Ultra-high-resolution cameras stationed in strategic locations around its network will give Norfolk Southern a 360-degree health check on railcars, improving its ability to detect, diagnose, and repair defects before they become issues. The company is accelerating the installation of the next phase of this new technology on its Premier Corridor, which connects the Midwest and Northeast, including New York and New Jersey, and is the line that runs through East Palestine.
- **Support a strong safety culture.** Norfolk Southern has agreed to join the Federal Railroad Administration's Confidential Close Call Reporting System ("C3RS"). By joining the program, Norfolk Southern is building upon its own long-standing Close Call Experience Program, which encourages railroaders to speak up if they see something that is unsafe.

Norfolk Southern was an industry leader in testing electronically controlled pneumatic ("ECP") brakes.⁵ We do not currently operate trains with ECP brakes; however, until 2017, we operated a small number of trains with ECP brakes in limited service. Our experience has been that ECP brakes are less reliable than other technologies, particularly with the increased use of distributed power locomotives. This has been corroborated by others. The Government Accountability Office also studied this issue and concluded in October 2016 that the Department of Transportation's ("DOT") justification for new regulations requiring ECP brakes "lacked transparency and the information provided to support the ECP brake requirement was not sufficiently thorough and transparent to enable a third party to reproduce a portion of the modeling methodology."⁶ Additionally, the National Academies of Science found that "DOT's ECP brakes analysis is incomplete and unconvincing."⁷

⁵ "BNSF, NS obtain FRA waiver to begin testing ECP brake systems," *Progressive Railroading*, March 30, 2007, available at [progressiverailroading.com/rail_industry_trends/news/BNSF-NS-obtain-FRA-waiver-to-begin-testing-ECP-brake-systems--3-159](https://www.progressiverailroading.com/rail_industry_trends/news/BNSF-NS-obtain-FRA-waiver-to-begin-testing-ECP-brake-systems--3-159) ("With a Federal Railroad Administration (FRA) waiver in hand and the promise of better braking system in mind, BNSF Railway Co. and Norfolk Southern Railway are set to begin testing electronically controlled pneumatic (ECP) brakes."); "ECP brakes go live," *Railway Gazette International*, November 20, 2007, available at <https://www.railwaygazette.com/news/ecp-brakes-go-live/32462.article> ("Norfolk Southern has operated the first revenue service freight train in the USA to be fitted with electronically-controlled pneumatic brakes.").

⁶ U.S. GAO, Report to Congressional Committees: Train Braking - DOT's Rulemaking on Electronically Controlled Pneumatic Brakes Could Benefit from Additional Data and Transparency, Oct. 2016, <https://www.gao.gov/assets/690/680555.pdf>.

⁷ Assoc. of Am. RR, Electronically Controlled Pneumatic (ECP) Brakes & Hazmat, Mar. 2023, <https://www.aar.org/wp-content/uploads/2023/02/AAR-ECP-Brakes-Fact-Sheet.pdf>.

When it comes to legislative and regulatory safety policy, Norfolk Southern is focused on science and data. We are continually looking for ways to improve our safety performance and will collaborate with all relevant stakeholders. And Norfolk Southern has long invested in safety systems, including a number above and beyond government regulations. The following are specific examples:

- We have deployed a vast array of wayside detectors throughout our network, including acoustic and thermal detectors and wheel impact load detectors.
- We have also developed a locomotive-mounted track geometry inspection system that detects geometry defects far better than a human being can with each train trip it completes.
- We have deployed and continue to develop automated train inspection systems that use machine vision technology to find potential issues in rolling stock that are in some cases imperceptible to the human eye.
- We are leveraging artificial intelligence to predict rail wear, enabling a redesign of our rail replacement program that will enhance safety.
- And we have put into use locomotive simulators to enhance training and familiarize crews with new technology.

Again, we have taken all these steps not because the government requires us to, but because they make our railroad safer.

Question 8. How have the safety protocols and regulations for railroad maintenance changed in the last five years?

a. What has Norfolk Southern done to respond and adapt to these changes, and how will Norfolk Southern ensure safety in the future?

We are committed to always working to improve safety. We have talked to others in the industry and made clear that we need to move quickly and take action to make sure the industry is safer. In fact, we agreed to the Association of American Railroad's new Key Safety Measures, which include changes to hotbox detectors.⁸ This includes installing hotbox detectors across key routes and implementing a threshold for stopping trains for inspection when a certain reading is received. We look forward to working with our fellow industry leaders to make the railroad industry safer.

Additionally, we invest over \$1 billion every year on technologies, equipment, and infrastructure to enhance the safety of our rail operations, and another \$1 billion on ongoing operations in support of safety. As a result of these efforts and more, from 2021 to 2022, Norfolk Southern's performance improved across key FRA safety metrics including the rate of

⁸ Assoc. of Am. RR, Freight Railroads Announce Key Safety Measures in Drive to Zero Accidents, Mar. 2023, <https://www.aar.org/news/freight-railroads-announce-key-safety-measures-in-drive-to-zero-accidents>.

total accidents/incidents, rate of train accidents, rate of yard accidents, rate of highway-rail incidents, and rate of employee injuries.

As outlined earlier, we have already initiated steps to increase safety on our rail lines. Please see the answer to Question 7 above.

Question 9. What type of direct support has Norfolk Southern provided to the East Palestine, community?

a. What will this support look like in the short, medium, and long term?

We understand how much East Palestine means to each resident, and we are committed to making this right. We are working with community leaders to invest in the community and to help East Palestine thrive.

Financial assistance cannot change what happened, but it is an important part of doing the right thing. Our total financial commitment to East Palestine to date is over \$29.5 million in reimbursements and community investment— and that's just a down payment. Our financial support so far includes:

- Over \$13 million in direct financial assistance to more than 7,600 families.
- A \$5 million fund to reimburse local Pennsylvania fire departments for costs associated with the emergency response and clean-up;
- Nearly \$5 million in reimbursements and support to the East Palestine Fire Department and other area first responders for equipment used in the derailment response;
- Almost \$1.5 million to Pennsylvania state agencies to cover costs incurred as a result of the derailment;
- A \$1 million fund available immediately to East Palestine community leaders to identify where donations can do the most good;
- Another \$1 million fund to support the immediate needs of the East Palestine community, overseen by a Norfolk Southern craft railroader who lives in East Palestine and has been hired to serve as a community liaison, reporting directly to my office;
- Another \$1 million Community Relief Fund to provide support to Pennsylvania businesses that have experienced losses as a result of the incident, including business expenses Norfolk Southern has reimbursed to date;
- \$300,000 to the East Palestine City School District to support the district's academics, athletics, extracurricular activities, and long-term contingency planning regarding the impacts of the derailment;
- \$250,000 donation to The Way Station, an Ohio-based nonprofit delivering aid to the East Palestine community, to help establish a larger, permanent location in the area and hire additional staff, including a social worker;

- Funding and coordination of cleaning and air monitoring services for the East Palestine Elementary and High Schools; and
- \$65,000 to the East Palestine Youth Sports Association to allow children to play in sports leagues for free for the year.⁹

We know that because of the derailment, many residents are worried about long term health impacts, water quality, and property values. While environmental monitoring to date continues to show the air and drinking water are safe, Norfolk Southern is committed to solutions that address these concerns. We are in the planning stages of implementing a long-term healthcare fund, a property value assurance program, and a long-term water testing program. We look forward to working toward a final resolution with Attorney General Yost and others as we coordinate with his office, community leaders, and other stakeholders to finalize the details of these programs.

Finally, we know it is important to keep the community informed. NSMakingItRight.com is updated regularly with information about remediation, monitoring, financial assistance, and investments in the community.

b. How does Norfolk Southern plan to reimburse the costs associated with this environmental disaster that residents are facing, such as travel, relocation, or pet care?

Norfolk Southern has distributed over \$3 million directly to families in the area to cover costs associated with temporary relocation during the evacuation. We continue to provide reimbursement for expenses incurred by residents affected by the evacuation, in addition to recovery assistance compensation for those who were evacuated, through our Family Assistance Center.

If residents have a concern, we want them to come talk to us. Our website, www.NSMakingItRight.com, provides the latest information and details on how to reach Norfolk Southern.

c. Has the same support been offered to those living across the Pennsylvania border in Darlington Township, Pennsylvania and other impacted communities?

We are providing recovery assistance to residents in Darlington Township who were: (1) in the original evacuation zone; or (2) located inside an extended area and were advised to leave by first responders on the day of the vent and burn. They and others are welcome to visit our Family Assistance Center to seek reimbursement for any expenses they paid as a result of the derailment. We will reimburse costs incurred related to the derailment, such as hotel costs or lost wages. There is no geographical limit on those reimbursements.

⁹ See <https://nsmakingitright.com>.

Question 10. How does Norfolk Southern plan to prevent future derailments, especially those involving hazardous materials?

a. Why should communities feel safe having Norfolk Southern operations continue to pass through their communities, given the risks involved?

Norfolk Southern is committed to operating a safe railroad as we fulfill our common carrier obligation and provide an efficient service product for the customers who depend on us. Running a railroad has inherent risks, but it remains the safest method of transporting hazardous materials. According to data on the Pipeline and Hazardous Materials Safety Administration's website, over the last 10 years, there have been zero fatalities in hazardous material related railway incidents; in the same time frame, there were 71 fatalities in hazardous material related truck incidents.¹⁰ As an industry we cannot eliminate all risks, but we can try to mitigate through science, technology, and data. In 2022, Norfolk Southern had the second lowest rate of accidents involving hazardous materials releases in the last decade.

We take a number of steps to ensure that local communities are equipped to respond to train-related incidents. Norfolk Southern maintains a robust network of emergency response contractors who are able to respond to an incident in any of the 22 states where we operate. Our emergency response contractors include hazardous materials specialists who are licensed and qualified to respond to incidents involving the release or potential release of hazardous materials. Further, these contractors are geographically situated such that they can be on-site, often with their own emergency response equipment, shortly after an accident.

Norfolk Southern proactively engages first responders in the communities we serve by providing them with the knowledge and training necessary to respond safely and appropriately to an array of emergency situations. In 2015, Norfolk Southern launched Operation Awareness & Response ("OAR") with the goal of strengthening relationships with first responders across Norfolk Southern's 22-state network. OAR focuses on building closer relationships with local and state agencies by increasing training opportunities through classroom, web-based, and online resources, tabletop drills, and participation in full-scale exercises. For example, Norfolk Southern operates a safety train with a dedicated locomotive, specially equipped classroom box cars, and several tank cars for hands-on training with the type of car that our customers use to transport hazardous materials, including lessons on tank car safety features. Norfolk Southern recently announced that it would expand its OAR safety train program to include 12 stops in 2023.¹¹

OAR connects emergency responders with better training and resources such as the AskRail mobile app, which allows first responders to use their mobile phones to look up commodity and response information on rail shipments.¹² OAR also includes a continued commitment to providing high-level training for emergency responders at the Security and Emergency Response

¹⁰ *Fatalities By Mode and Incident Year*, U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (last accessed April 14, 2023), <https://portal.phmsa.dot.gov/analytics/saw.dll>.

¹¹ *Norfolk Southern to Establish Regional Safety Training Center in Ohio*, Mar. 8, 2023, <http://nscorp.mediaroom.com/2023-03-08-Norfolk-Southern-to-establish-regional-safety-training-center-in-Ohio>.

¹² See Norfolk Southern Operation Awareness & Response, at <http://www.joinnsoar.com/training.html>.

Training Center in Pueblo, Colorado. Since OAR's inception, Norfolk Southern has trained more than 40,000 first responders, including over 5,000 in 2022 alone.¹³

Norfolk Southern also provides useful information on its OAR website to first responders and emergency planners, including Norfolk Southern's emergency response planning guide, the industry's field guide to tank cars, and several governmental publications on incident management and best practices.

Norfolk Southern submits train consist information to the AskRail mobile application, a collaborative effort among the emergency response community, all Class I railroads, and Railinc Corporation. The application provides more than 25,000 emergency responders—from all 50 states and 8 Canadian provinces—with immediate access to accurate, timely data about the type of hazardous materials a railcar is carrying.

In addition, Norfolk Southern participates in the Transportation Community Awareness and Emergency Response Program ("TRANSCAER"), which facilitates emergency preparedness activities between local communities and Class I Railroads. TRANSCAER helps communities develop emergency response plans for transportation involving hazardous materials.

On March 8, 2023, Norfolk Southern announced an expansion of its emergency responder training program through creation of a new regional training center in Ohio.¹⁴ Initially, the facility will provide additional, free training for first responders from Ohio, Pennsylvania, and West Virginia. Norfolk Southern plans to expand the use of the facility over time to provide specialized training for a broader audience. In the event of an emergency response, this center will strengthen coordination between railroads and first responders. Upon request, our Norfolk Southern hazardous materials team also provides training on-site at fire departments throughout our system.

We are committed to investing in our people, our infrastructure, and in new technology and systems to make our operations safe for our employees and the communities we serve and to do our part in helping to maintain the freight railroad network as one of the safest and environmentally sustainable modes of surface transportation in the nation.

b. How would decreased speed limits for all trains containing hazardous materials, not just those with many cars of hazardous materials, impact the operation of your railway?

We are committed to working with lawmakers, the NTSB, the FRA, and other agencies, as well as lawmakers to improve railway safety. There are impacts to lowering train speed limits. Decreased train speed limits may result in trains traveling slower through a community which could result in trains occupying road crossings for longer time periods. Lower train speeds may

¹³ *Id.*

¹⁴ *Norfolk Southern to Establish Regional Safety Training Center in Ohio*, Mar. 8, 2023, <http://nscorp.mediaroom.com/2023-03-08-Norfolk-Southern-to-establish-regional-safety-training-center-in-Ohio>.

also result in a decrease in network fluidity which will affect service and create additional congestion. This could lead to an increase in trains' environmental footprints.

c. What other actions can the rail industry as a whole take to decrease the odds of train derailments?

A safe railway is the best railway for us, our industry, and the country. Norfolk Southern has committed to working with all members of our industry, including shippers, customers, tank-car manufacturers, tank-car lessors, and other railroad operators to develop practices and technologies that could help prevent an incident like the one in East Palestine in the future. We are committed to developing science-based and data-driven practices and investing in technologies. As science advances, our operations will adjust.

We intend to work with all relevant stakeholders to make industry-wide safety improvements. Norfolk Southern is leading in this area in the following ways:

- Enhancing the hot bearing detector network;
- Piloting next-generation hot bearing detectors;
- Working with industry on practices for hot bearing detectors;
- Deploying more acoustic bearing detectors;
- Accelerating our Digital Train Inspection program; and
- Along with the other Class 1 Railroads, joining the Federal Railroad Administration's Confidential Close Call Reporting System ("C3RS").

We support the intent of legislation designed to improve safety. We have identified several provisions in proposed legislation that build upon the recent safety initiatives implemented by Norfolk Southern and the entire freight rail industry. Norfolk Southern has already come out in support of the following legislative measures designed to enhance safety for all railroads:

- Accelerating the phase-in of safer DOT-117 tank cars that carry hazardous materials;
- New fees on Class I rail carriers if the fees are used to create new grant funding programs for first responder hazardous materials training;
- Expanding advance notification to first responders when carriers are transporting hazardous materials through their state;
- Triennial updates to federal freight car safety standards;
- Providing additional grant funding for research and development of wayside detectors to better prevent the derailment of trains transporting hazardous materials;
- Requiring trains carrying hazardous materials to be scanned by hotbox detectors at regular intervals; and
- Regular FRA audits of railroad compliance with rail car safety inspection regulations.

We appreciate the bipartisan leadership from Members of both the Senate and House to help make the railroad industry safer.

Question 11. Why is relocation only being offered to residents within a one-mile radius of the derailment?

- a. How was this decision made, and what evidence supported this decision?**
- b. Are you open to extending relocation support to those impacted outside of this one-mile radius?**

We are offering relocation to residents impacted beyond the one-mile radius of the derailment. Reimbursement is available for lodging, travel, food, clothes, and other related items, and is open to those living outside the evacuation zone as well as those who had to evacuate their homes. We have also established a \$1 million fund available immediately to the community.

We continue to provide reimbursement for expenses incurred by residents affected by the evacuation, in addition to recovery assistance compensation for those who were evacuated, through our Family Assistance Center.

Question 12. Norfolk Southern and other railroads are responsible for inspecting the safety of the train cars and ensuring that all assets are in good working condition. Yet since 2017, the railroads have made significant staff reductions, including reducing the staff responsible for conducting inspections and maintenance. According to the Transportation Trades Department, the amount of time car-men have to inspect each car in a train has been reduced by two thirds, from three minutes to just 60 seconds per car.

- a. How long does it take to walk the circumference of a train car, and does that leave time for conducting the inspection?**

Federal regulations set out the requirements for mechanical inspections.⁹ Norfolk Southern conducts inspections consistent with FRA regulations.

At Norfolk Southern, inspections are performed by designated mechanical inspectors, who may perform other job functions in addition to inspections—including maintenance, testing, and repairs. Certain inspections may also be conducted by crewmen, conductors, engineers, and other personnel, consistent with FRA regulations.⁸ We note that inspection frequency has generally remained consistent, and Norfolk Southern has remained committed to complying with federally mandated mechanical inspection obligations.

We understand that there may be questions about our overall workforce numbers, including inspectors. As context, we note that optimized train routes and newly adopted technologies to assist inspectors have increased the efficiency of on-arrival and pre-departure inspections. For example, inspectors can now use mobile device applications that allow them to charge air hoses for brake tests. Before this technology became available, the inspector would spend considerable time walking the length of the train multiple times as part of the outbound brake test. Visual inspections are also supplemented by Norfolk Southern's extensive network of wayside equipment and other inspection technology. As noted above, Norfolk Southern is also accelerating its digital train inspection program and are working to develop next generation safety inspection technology and ultra-high resolution cameras that can detect issues more effectively than traditional human inspection.

Notably, the length of time for an inspection depends on several factors including the type of inspection performed, train length, materials transported, weather, time of day, etc. Moreover, the time it takes to walk the length of the train includes the time it takes to conduct the inspection. We agree on the importance of ensuring thorough inspections and we understand the most successful inspections are carried out through a combination that uses both technology and human resources. Therefore, the focus on time requirements alone may not equal safer inspections.

b. How much money has Norfolk Southern saved in operating costs by reducing safety inspections?

As discussed in the immediately preceding answer, the frequency of our inspections has remained consistent.

At Norfolk Southern, safety is our priority and we have long been committed to operating a safe railroad. We have a multiprong approach to safety that includes capital investments to reduce the number and severity of accidents. We invest over \$1 billion every year on technologies, equipment, and infrastructure to enhance the safety of our rail operations. These include safety-focused items, such as rails, ties, ballasts, bridges and culverts, vehicles, and maintenance of way equipment. We spend an additional \$1 billion on ongoing operations in support of safety.

We have made major investments in trains and rail infrastructure to improve safety and reliability. Over the past five years, we have invested almost \$9 billion in railroad infrastructure that contributes to us running a safe, reliable railroad and reduces maintenance expenses. For example, from 2017 to 2021, Norfolk Southern invested approximately \$2 billion in its locomotives, modernizing 637 locomotives so they are practically brand new. This has helped to reduce maintenance expenses while improving safety and reliability.

c. Would you agree that cutting inspection and maintenance positions has contributed to concerns about the safety culture at Norfolk Southern, which the National Transportation Safety Board and the Federal Regulatory Commission are now investigating?

As an organization, we think about safety every day. We are driven by data and use technology to improve our safety operations. We do not allow unsafe railcars to operate. If we have a concern about a car's safety, it comes out of the lot. In 2022, Norfolk Southern had fewer derailments than in any other year in the last two decades. But that does not mean that we are satisfied with where we are. We will keep looking for better ways to prevent incidents going forward.

We are investing in our workforce and in our railroad. We are hiring in record numbers even while others are laying off. Instead of furloughing workers during periodic economic downturns, we intend to use the opportunity to invest in our workforce and provide additional training. When we do that, it makes us a more resilient company that is better able to serve our customers, and it creates more career opportunities for our craft railroaders. We hired craft railroaders aggressively throughout 2022 and continue to do so this year.

Our new strategy goes hand-in-hand with our increased focus on culture and employee engagement, with an emphasis on transparency and collaboration. We know that, when Norfolk Southern is successful, it is because our craft colleagues are getting the job done for our customers and the United States economy.

Question 13. The American Association of Railroads (which includes Norfolk Southern) submitted comments on EPA’s draft Risk Management Program (RMP) rule that proposed to limit EPA’s definition of a stationary source that is covered under the rule, which, if implemented, might omit certain stationary railcars storing hazardous substances from being required to have risk management plans. Does Norfolk Southern agree with the American Association of Railroads position to limit the EPA definition of stationary sources under this rule?

Norfolk Southern agrees with the AAR’s position that a stationary source within the meaning of the EPA’s Risk Management Program (“RMP”) rule does not apply to materials in transportation or incident to transportation, including railcars storing hazardous materials while in transportation. EPA has long recognized that it shares jurisdiction with the Department of Transportation and that such materials are not included within the definition of stationary source.¹⁵

a. Do you think that all stationary railcars with hazardous content should have risk management plans?

Norfolk Southern has developed emergency response processes for bringing pre-positioned materials and contractors to a site in the event of a release of hazardous materials on Norfolk Southern’s system from a stationary railcar.

b. Should all railcars actively in transit with hazardous content have risk management plans?

Just as our emergency response processes cover releases of hazardous materials from stationary railcars, they also cover emergency response procedures in the event of a release on Norfolk Southern’s system from railcars actively in transit.

Question 14. Evidence suggests that rail infrastructure is not equipped to handle the effects of the accelerating climate crisis. For example, railroads are prone to buckling during heatwaves, as evidenced by a July 2012 heatwave that caused several trains transporting hazardous substances to derail across the country. A 2021 study by the Coalition to Prevent Chemical Disasters, as well as a 2022 Government Accountability Office report, have both found that roughly one-third of RMP facilities are in areas at risk of natural hazards, like wildfires, storm surges, and flooding. The transportation infrastructure around these facilities is likely also vulnerable.

¹⁵ See *Accidental Release Prevention Requirements: Risk Management Programs Under Clean Air Act Section 112(r)(7); Amendments to the Worst-Case Release Scenario Analysis for Flammable Substances*, 64 Fed. Reg. 28696, 28698 (May 26, 1999) (to be codified at 40 C.F.R. pt. 68).

- a. **What actions are you taking to ensure that its business operations, including infrastructure, are prepared to handle the impacts of the climate crisis?**
- b. **Is there more that the rail industry as a whole could be doing to build resilience to manmade and natural disasters?**

Norfolk Southern's commitment to sustainability is integrated throughout our operations. We are proud to be one of the most sustainable transportation options available, as greenhouse gas emissions are reduced by 75 percent on average when moving freight by rail instead of by truck. Norfolk Southern is partnering with our customers to help them avoid 15 million metric tons of carbon emissions annually, and in 2021, set a science-based target to further reduce our carbon emissions. These goals will be achieved by:

- Modernizing more than 100 locomotives each year since 2016, with a total of 950 expected by 2025;
- Outfitting 1,550 road locomotives (93% of active fleet) with energy-management technologies;
- Adding distributed power systems to 120 additional locomotives;
- Using data to identify and eliminate more than 2,000 hours of idling per day, which will conserve more than 2.6 million gallons of fuel usage annually; and
- Continuing use of biofuel blends to lower our carbon intensity.

We also strongly believe that resiliency requires commitment to supporting emergency responders, who are the first on the ground after an incident. Norfolk Southern has funded training for emergency responders across our 22-state network for years. Every year, we train four to five thousand first responders every year. We recently announced that we are establishing a new regional training facility in Ohio, which will offer free training to first responders in Pennsylvania, Ohio, and West Virginia. The first safety classes at this new center began in March at our rail yard in Bellevue, Ohio, just west of Cleveland. We have more than 400 first responders registered for this and other upcoming trainings, and classes are currently full. We will have numerous future training opportunities across the states we serve in 2023.

Question 15. One of the community's demands is for medical monitoring and guaranteed health coverage for all impacted residents. During our hearing on March 9th, 2023, you announced that you are committed to a solution that addresses the long-term health risks caused by chemical exposure through the creation of a long-term medical compensation fund. However, since then Norfolk Southern has not provided any further details or a timeline. What is the timeline for this long-term medical compensation fund?

- a. **How large of an area with the fund cover?**
- b. **Will all individuals that experience long-term health impacts have access to the fund?**

We are listening closely to concerns from the community about whether there could be long-term impacts from the derailment. Many residents are worried about what they will do if health impacts related to the derailment are discovered years from now. To date, environmental monitoring continues to show the air and drinking water are safe. To provide an additional level of assurance, we are committed to a solution that addresses long-term health risks through the creation of a healthcare fund.

II. Questions from Senator Sanders

Question 1. Norfolk Southern recently announced that it will be focusing on deploying more wayside detection and track inspection technologies. However, under Precision Scheduled Railroading, Norfolk Southern has greatly reduced its workforce by almost 40%, including laying off many of the signal and track workers who were previously responsible for inspecting and maintaining these very technologies. This is all while Norfolk Southern has made record profits and done billions in stock buybacks to its shareholders. Right now, the unions tell me Norfolk Southern does not do routine inspections of these wayside detection technologies. Is Norfolk Southern going to hire the necessary signal and track human workers to maintain these systems?

- a. If not, why not?
- b. Furthermore, can Norfolk Southern commit to rolling back its use of Precision Scheduled Railroading by returning to its employment levels pre-implementation? Please provide specifics on how you intend to substantially increase your workforce.

Norfolk Southern has wayside detectors strategically positioned to optimize coverage along the right-of-way to find wheel, brake, and other types of defects as trains move across the system. Norfolk Southern regularly inspects its wayside defect detectors and repairs or replaces any detectors that no longer function properly. Norfolk Southern's defect detectors are inspected and maintained regularly at various intervals to confirm that detectors are properly maintained, calibrated, aligned, and all sensors are working as intended.

The implementation of Precision Scheduled Railroading ("PSR") has resulted in meaningful benefits to our employees. Since the introduction of PSR in 2019, we have seen our injury rate decline. It has also resulted in quality-of-life benefits for our employees: When trains originate on time, operate over the road on time, and terminate on time, our people can plan better for life events.

We also know that our employees in the field are key to our success. In December 2022, Norfolk Southern was the first in the industry to announce a move away from the traditional understanding of PSR, which places a particular focus on reducing operating ratio—a common industry measure of efficiency. We believe that minimizing operating ratio in the short term—for example, by furloughing workers at the first sign of an economic slowdown that reduces freight volume—is the wrong strategy for our industry moving forward. As part of our December announcement, we made clear that we are going to make reliable and resilient service our goal. That means investing more in service, running a safe railroad, and moving away from

the practice of furloughing workers during a downturn. Instead, we'll use the opportunity to improve training for our people. That makes us a better railroad, improves service for our customers, and improves the quality of life for our front-line railroaders.

Question 2. The East Palestine derailment leaked toxic chemicals linked to an increased risk of cancer, unconsciousness, and even death. I am told the workers assigned to clear the track and restore the line were not provided the necessary personal protective equipment. Did you provide rail workers with necessary personal protective equipment, including full face chemical respirators, other industrial grade respirators that protect workers from chemical gasses, eye protection, rubber gloves, rubber boots or hazmat overalls?

- a. **If you did not provide all of the personal protective equipment listed above, please list the specific equipment which you did not provide and why you did not provide it.**
- b. **Can you commit to paying for these workers' medical bills resulting from unsafe exposure to toxic chemicals?**

Our employees have been courageous and dedicated in their efforts to clean up the incident site and help restore the community. We are fully committed to keeping our employees safe as they work to clean up and restore the community of East Palestine, just like we're fully committed to keeping the community safe. Our consultants are following OSHA requirements, including air monitoring and PPE provision.

Shortly after the incident, we worked closely with contractors who specialize in this type of clean-up. The first Norfolk Southern employees on the scene were volunteer supervisors, not unionized workers. They accompanied the contractors to make sure we were involved in the response. Only after the contractors cleared the site for work did we call in our craft colleagues to assist with the clean-up. Our contractors advised us on conditions, including what sort of protective equipment we needed, and constantly monitored the air to make sure it was safe to work.

Our unionized employees receive comprehensive health benefits, and we encourage any employee who worked at the derailment site to see their medical provider if they are experiencing symptoms.

Question 3. Norfolk Southern reduced the time its trainees are in the training program by roughly two-thirds. Shortly thereafter, two newly promoted conductors suffered amputations, and we are now seeing dangerous scenarios play out across your properties. Will Norfolk Southern review its training program, address its obvious deficiencies, and make changes so that the training these critical and essential employees receive is thorough and capable of providing them with a sound foundation to have a safe and healthy career in the railroad industry?

Norfolk Southern is committed to investing in our people, our infrastructure, and in new technology and systems to make our operations safe for our employees and the communities we serve and to do our part in helping to maintain the freight railroad network as one of the safest

and environmentally sustainable modes of surface. Consistent with federal regulations, conductors must complete Norfolk Southern's conductor training program, which includes approximately four months of classroom and on-the-job training.

In addition, Norfolk Southern is currently cooperating with the FRA as it conducts a full safety culture audit, including a complete audit of Norfolk Southern's Conductor Training program. As part of the audit, the FRA has attended Norfolk Southern training across all crafts to observe the company's messaging around safety, which will allow Norfolk Southern and the FRA to openly exchange ideas to continue to improve our programs. Norfolk Southern is also cooperating with the NTSB's special investigation of its organization and safety culture. We are resolved to work with lawmakers, the NTSB, the FRA, and other stakeholders to improve railway safety and learn from this derailment.

Question 4. Tragically, three Norfolk Southern employees were killed on the job since December, including most recently the death of a conductor. I understand from the unions that Norfolk Southern is currently operating without an updated and approved conductor certification program--which requires minimum safety standards to reduce accidents like the one we saw in East Palestine--despite vocalized and formal objections from the unions for several months now. Can you commit to submitting a new Part 242 Conductor Certification Program that addresses both labor's and FRA's concerns so that conductors aren't continuing to work under unsafe company procedures?

Safety is our top priority at Norfolk Southern. We invest over \$1 billion every year on technologies, equipment, and infrastructure to enhance the safety of our rail operations, and another \$1 billion on ongoing operations in support of safety. As a result of these investments over time, accidents are down, hazardous release is down, and personal injuries are down.

Norfolk Southern is committed to operating its trains safely under approved programs and certifications. The company currently operates under an existing Part 242 Conductor Certification Program, effective May 22, 2018. Moreover, the company has worked with the FRA to ensure the necessary level of detail and submitted a proposed revised certification program to the FRA on January 17, 2023. The proposal is awaiting comment from unions, which requested and received an extension of the comment deadline.

Question 5. I appreciate that Norfolk Southern is actively negotiating paid sick leave deals with the unions. However, it is my understanding that Norfolk Southern is asking the unions for concessions on work rules in return for paid sick leave agreements, including subjecting workers to the company's attendance policy, which disciplines or terminates workers who miss work.

- a. **Will Norfolk Southern commit to negotiating paid sick leave deals without asking the unions for concessions in return?**
- b. **Will Norfolk Southern commit to not penalizing or disciplining workers under their attendance policy who properly utilize any paid sick leave and miss work?**

We are committed to enhancing quality of life for our employees, including paid sick leave as part of a broader overall package of benefits. To that end, following the close of national negotiations in mid-December, we immediately reached out to every one of our unions indicating our willingness to begin local discussions around paid sick leave and any other quality-of-life priorities. Those discussions picked up in January, and we have made consistent progress to reach agreements with our craft colleagues.

Ten of our twelve unions now have access to up to seven days of paid sick leave. In our discussions with the remaining two unions, their local leaders have articulated a number of quality-of-life benefits they would be interested in negotiating, with their highest priority being greater predictability around work assignments and rest days. That said, more recently those unions have also expressed interest in exploring paid sick leave, and we are actively partnering with them to negotiate paid sick leave and the other quality-of-life issues they have identified.

While these discussions continue, we also want to highlight several other types of sick leave benefits that our company has long provided. All railroad employees receive sick leave benefits for each day beyond seven days under the Railroad Unemployment Insurance Act ("RUIA"). These benefits, which include approximately 60 percent income replacement (subject to income caps) for up to 26 weeks, are funded by unemployment insurance taxes paid entirely by railroad employers. Employees in our industry do not pay these taxes.

Many of our craft employees also receive even longer-term and more generous sick leave benefits beyond those provided under the employer-funded RUIA program. Most employees who do not work in train and engine service have bargained for what are known as supplemental sickness benefits. These employees are eligible to receive sickness benefits after only four days. They receive approximately 70 percent income replacement for up to 52 weeks. Employees do not pay any premiums for this sick leave benefit; it is funded entirely by Norfolk Southern.

Our craft employees also already receive several different types of shorter-term sick leave benefits. They include:

- Unpaid time off for up to three scheduled medical visits for employees in unassigned train and engine service.
- The ability to "mark off" unpaid (*i.e.*, temporarily remove themselves from the pool of available employees) at any time for illness, provided that they maintain a reasonable overall attendance record. In addition, employees who mark off unpaid for sickness are typically allowed to apply other types of paid single-day leave, *e.g.*, personal leave days, to be retroactively compensated, thus converting the mark off into a paid day.

At Norfolk Southern, no employee can be disciplined or fired for taking a legitimate, unpaid sick mark-off. We have not adopted a points-based attendance policy, whose highly objective application could result in such an outcome. We do not assess points when employees use unpaid sick mark offs, but rather holistically review attendance and only discipline those with a longstanding pattern of unacceptable attendance. We also move employees through a multi-step process that starts with just a warning.

Question 6. Shortly after the derailment, one of the unions sent a letter to Secretary Buttigieg and Governor DeWine raising safety concerns with the cleanup process and rail industry practices, including the use of Precision Scheduled Railroading. It is my understanding from the unions that shortly after the letter was sent, a high-level Norfolk Southern manager referenced the letter to other managers and urged checking on the actions and work of individual employees of the union to see if anything seemed at all actionable. Will Norfolk Southern commit to not penalizing individual workers because their union raised/raises safety concerns with federal and state officials?

Norfolk Southern is committed to the wellbeing of our employees and to fostering a culture of transparency throughout our organization. To that end, we have robust, ongoing dialogues with our unions. Norfolk Southern's top priority is safety, both of our railroad and of our employees. We do not penalize our employees when their union raises safety concerns, whether that is within the company or to federal and state officials. Norfolk Southern prohibits retaliation against whistleblowers.

Question 7. Will Norfolk Southern empower their employees to stop any train movement when the crew is notified a detector has sensed they have a hot wheel, bearing, or any other potential defect that could affect the safe movement of their train?

Norfolk Southern's protocols for responding to wayside detector alerts necessarily depend on the type of defect identified. As trains travel across our system, data from wayside detectors is transmitted to a processing center where algorithms analyze the data, and when appropriate, generate an alert to an analyst at the Wayside Detector Help Desk. Employees take different courses of action when an alert is delivered to the Wayside Detector Help Desk, depending on the type of alert and other factors. The analyst may continue to monitor the train as it progresses or may contact the train crew and direct them to take actions, which could include stopping the train and inspecting it.

An alarm will be broadcast from the wayside detector directly to the crew when certain conditions are detected. Norfolk Southern's operating rules dictate the crew's proper response depending on the type of alarm. When a critical alarm is broadcast to the crew, the operating rules dictate that the crew stop the train immediately for inspection. When a non-critical alarm is broadcast, the train must immediately reduce speed to not less than 8 mph until the rear of train clears the detector which broadcast the alarm, and the train then must stop for immediate inspection.

Question 8. What actions will Norfolk Southern take against any supervisor who orders a train crew to disregard a defect alert (audible or otherwise), or hot wheel/bearing trending data, and keep moving their train in violation of established operating procedures?

We do not allow unsafe railcars to operate. If we have a concern about a car's safety, it comes out of the lot. We expect all of our employees, including supervisors, to make safety a priority when making decisions on the job. In the case of the East Palestine incident, once the rail crew was alerted by the wayside detector, they immediately began to stop the train.

Please refer to the answer to Question 7 for additional details on Norfolk Southern's wayside detector alert and alarm protocol.

III. Questions from Senator Whitehouse

Question 1. Please provide all communications between Norfolk Southern and its trade association with the Trump administration related to the repeal of the 2015 regulation requiring trains carrying certain dangerous substances to be equipped with electronic pneumatic brakes.

We consider all aspects of our safety operations and are constantly looking for data-driven ways to improve and make Norfolk Southern a safer railroad. With regard to East Palestine, the Chair of the NTSB has said that "ECP brakes would not have prevented the derailment," and that "even with ECP brakes, the derailment would have occurred."

Norfolk Southern was an industry leader in testing ECP, and our experience found that the ECP brakes were less reliable than other technologies.

Question 2. How much money did Norfolk Southern give to the National Association of Manufacturers and other trade associations in 2015, 2016, and 2017?

Norfolk Southern participates in a variety of rail industry trade associations, chambers of commerce, and other trade organizations. These organizations promote collaboration among the members and provide a forum to allow the members to focus on issue advocacy and promote best practices in safety, operations, and business. Among many other benefits, membership typically provides Norfolk Southern employees with the opportunity to participate in educational and public relations activities, industry conferences, and networking opportunities. Our membership does not imply that we agree with or endorse every position that these groups may take.

Norfolk Southern made the following non-deductible payments in 2015, 2016, and 2017 to trade organizations, chambers of commerce, and tax-exempt organizations. We report these payments when they exceed both \$10,000 and 10 percent of the total tax-deductible amount that we paid to the organization that year, in line with the model conduct standards of the Center for Political Accountability-Zicklin Index, to reflect the organizations in which our membership plays a substantial role:

	2015	2016	2017
American Association of Railroads	\$880,000	\$768,000	\$642,603
American Coalition for Clean Coal Electricity	\$200,000	\$135,000	\$50,000
Business Roundtable	\$129,600		
CoalBlue Project	\$45,000		
US Chamber of Commerce	\$35,000	\$30,000	\$27,500
Virginians For Fair Representation	\$25,000		
Light Rail Now, Inc.		\$10,000	
National Association of Manufacturers	\$19,300	\$19,329	\$18,613

Question 3. According to the New York Times, Norfolk Southern paid shareholders nearly \$18 billion through stock buybacks and dividends over the last five years ending in 2022—reportedly twice as much as the amount Norfolk Southern invested into operations. Do you contest this reporting?

- a. Please provide the annual amounts that Norfolk Southern has paid to its shareholders through stock buybacks and dividends for each year since 2015.

At Norfolk Southern, safety is our top priority. We are committed to ensuring the safety of communities that live by our railroads. Decisions to buy back stock never come at the expense of running a safe railroad. We invest over a billion a year in maintaining the safety of our infrastructure. We have a multiprong approach to safety that includes capital investments to reduce the number and severity of accidents.

We make data on stock buybacks and dividends publicly available each financial quarter. As publicly disclosed, the annual amounts for the last eight years are as follows:

- 2015: \$1.1B in stock buybacks, \$713M in dividends
- 2016: \$803M in stock buybacks, \$695M in dividends
- 2017: \$1.0B in stock buybacks, \$703M in dividends
- 2018: \$2.8B in stock buybacks, \$844M in dividends
- 2019: \$2.1B stock buybacks, \$949M in dividends
- 2020: \$1.4B in stock buybacks, \$960M in dividends
- 2021: \$3.4B stock buybacks, \$1.028B in dividends
- 2022: \$3.1B stock buybacks, \$1.167B in dividends

IV. Questions from Senator Merkley

Question 1. A March 2022 Securities Exchange (SEC) Filing names Norfolk Southern’s “record performance for train length and weight” as the first item it details in speaking to the corporate performance that justified the 2021 cash Award for executives including yourself. Page 44 of the same document names the executives who received more than \$1 million in cash that year, based on these metrics (importantly, performance against the highly controversial ‘operating ratio’ makes up the majority of their cash award). Would you change what triggers cash awards for executives, to decouple rewards from the operating ratio, so that you may prioritize safety upgrades, and measurably reduce number of train accidents and derailments?

Safety is our top priority at Norfolk Southern. We are committed to ensuring the safety of communities that live by our railroads. We invest over \$1 billion every year on technologies, equipment, and infrastructure to enhance the safety of our rail operations. We spend another \$1 billion on ongoing operations in support of safety. We have a multiprong approach to safety that includes capital investments to reduce the number and severity of accidents.

Norfolk Southern was the first in the industry to announce in December 2022 a move away from the traditional understanding of Precision Scheduled Railroading, which places a particular focus on reducing operating ratio—a common industry measure of efficiency. We believe that minimizing operating ratio in the short term—for example, by furloughing workers at the first sign of an economic slowdown that reduces freight volume—is the wrong strategy for our industry moving forward.

As part of our December announcement, we made clear that we are going to make reliable and resilient service our goal. That means investing more in service, running a safe railroad, and moving away from the practice of furloughing workers during a downturn. Instead, we'll use the opportunity to improve training for our people. That makes us a better railroad, improves service for our customers, and improves the quality of life for our front-line railroaders.

Additionally, we disclosed in our proxy statement for our annual shareholders meeting filed with the SEC on March 31 that to align executive incentives with our new balanced approach to safe and resilient service, smart and sustainable growth, and productivity improvements, executive compensation will be based, in part, on safety. The specific metrics include the FRA reportable injury rate and FRA reportable train accident rate as safety performance measures related to our employees and the communities in which we operate.

V. Questions from Senator Fetterman

Question 1. As was discussed in the hearing on March 9, my staff has heard from local officials in Darlington Township that Norfolk Southern began giving “inconvenience” stipends to individuals with an East Palestine zip code. After requests from numerous Pennsylvania representatives, Norfolk Southern extended the inconvenience stipends to include Pennsylvania, but it still is not clear how wide that area covers. Can you please confirm that Pennsylvanians who left their homes after the derailment – regardless of their zip code – are entitled to this financial assistance from Norfolk Southern?

We are committed to making sure every resident affected by the derailment is made whole.

Norfolk Southern continues to provide reimbursement for expenses incurred by residents affected by the evacuation, in addition to compensation for inconvenience during the evacuation, through our Family Assistance Center. We are providing recovery assistance to anyone in Darlington Township who was: (1) in the original evacuation zone; or (2) located inside an extended area and were advised to leave by first responders on the day of the vent and burn. Others are welcome to visit our Family Assistance Center to seek reimbursement for any expenses they paid as a result of the derailment. We will reimburse costs incurred related to the derailment, such as hotel costs or lost wages. There is no geographical limit on those reimbursements.

Question 2. The Family Assistance Center set up by Norfolk Southern has been turning away Darlington residents, even though you extended that center’s reach to explicitly include those residents. Pennsylvanians are being told that they have to go to the township for a letter to be accepted by the Assistance Center. Clearly Norfolk Southern

representatives on the ground are not on the same page as company leadership. How are you going to address these miscommunications on the ground? Please provide the process by which you will ensure that Assistance Center employees accept Darlington residents and provide assistance.

We are committed to transparent communications with the public and with Pennsylvania agencies, both about the clean-up response and in the future. We have established a website, NSMakingItRight.com, where we are providing the latest information on site progress, community support, and how to obtain support through the Family Assistance Center. Anyone who has expenses for reimbursement should reach out to us.

For residents seeking reimbursement for derailment-related expenses, we will continue to apply the same standards we have had in place since we established our Family Assistance Center on February 5, 2023, and which the Pennsylvania residents referenced above followed to receive their payments. This information, and answers to other common questions, is available on our public website at NSMakingItRight.com/FAQs.

As outlined in those instructions, we ask that each individual claimant provide government-issued identification, proof of residency (if seeking compensation for evacuation), and receipts for expenses incurred as a result of the derailment. Reimbursement is available for lodging, travel, food, clothes, and other related items, and is open to those living outside the evacuation zone as well as those who had to evacuate their homes.

VI. Questions from Ranking Member Capito

Question 1. On February 14, 2023, Pennsylvania Governor Josh Shapiro sent a letter to Norfolk Southern asserting that your company failed to establish the Unified Command Structure (UCS) appropriately, resulting in communication breakdowns for first responders. Do you believe this is a fair assessment of Norfolk Southern's participation in the immediate response?

Respectfully, Norfolk Southern has a different perspective on the response. A Unified Command was organized on the night of the incident under the leadership of the East Palestine Fire Chief as the Incident Commander in charge of the local response effort. The Governors of Ohio and Pennsylvania, the Mayor of East Palestine, the East Palestine Fire Chief, the National Guard, and Norfolk Southern, as well as local, state, and federal personnel, were all involved in responding to the incident.

Our understanding is that Norfolk Southern personnel arrived on scene shortly after the accident; and almost immediately we dispatched our hazardous materials expert contractors and Norfolk Southern hazardous materials personnel, who arrived on the scene quickly, and worked with first responders to help ensure they operated safely. Within approximately one hour of the derailment, Norfolk Southern personnel provided the train consist to the Incident Commander. The emergency response was a dynamic situation, involving dozens of different fire departments from Ohio and Pennsylvania. Upon arriving onsite, Norfolk Southern employees helped bridge

the communication gap between fire departments by notifying first responders to evacuate the derailment site.

From the moment of the accident, Norfolk Southern has worked to be transparent and cooperative with the various local, state, and federal stakeholders involved. Throughout the response, Norfolk Southern has provided information to the Incident Commander, who led the decision-making in the Unified Command, in consultation with local, state, and federal officials, with input from Norfolk Southern experts, based on information available at that time. Norfolk Southern's role was to bring the best set of information to all members of the Unified Command for their input and consideration and to support the Unified Command's objectives, as led by the Incident Commander.

Question 2. Was the Interagency Modeling and Atmospheric Assessment Center involved in plume modeling efforts prior to the controlled burn decision?

Yes, the U.S. Environmental Protection Agency in its Unilateral Administrative Order governing removal efforts has stated that it "coordinated with the Interagency Modeling and Atmospheric Assessment Center (IMAAAC) to provide plume modeling throughout the duration of the derailment fire."¹⁶

Question 3. Please provide a list of all public and private organizations involved in the shared incident command structure prior to the establishment of the Unified Command Structure on February 21, 2023.

a. Indicate which of these organizations were involved in the decision to conduct a controlled burn.

The Unified Command, under the leadership of the Incident Commander in charge of the local response effort, in consultation with local, state, and federal officials, and with input from Norfolk Southern's experts, carefully considered various options to bring the incident safely under control. Norfolk Southern and its contractors were present at the Command Center, taking part in the Unified Command, along with the Governors of Ohio and Pennsylvania, Mayor of East Palestine, the East Palestine Fire Chief, the National Guard, Ohio EPA, and other state and federal personnel.

Question 4. Is it true that Norfolk Southern was the only entity responsible for contracting with facilities where waste from the derailment site would be disposed of or destroyed?

a. If this was not the case, please indicate all public and private organizations involved with site selection, transportation, and disposal of waste from the derailment site.

Under the Unilateral Administrative Order ("UAO") issued by U.S. EPA on February 21, 2023, Norfolk Southern is obligated to take all actions necessary to remove, transport and dispose of

¹⁶ See Unilateral Administrative Order for Removal Actions, *In re East Palestine Train Derailment Site*, CERCLA Dkt. No. V-W-23-C-004 at 4 (EPA Feb. 21, 2023).

waste at U.S. EPA-approved disposal facilities. *See* UAO ¶¶ 36, 36(h), 46. The U.S. EPA reiterated this understanding in a letter dated February 24, 2023, stating that “disposal location and transportation route(s) shall be subject to U.S. EPA approval.” Accordingly, our waste disposal actions have been conducted under U.S. EPA oversight, and with the U.S. EPA’s approval, since then.

To date, over 25,400 tons of waste soil have been excavated from the incident area and sent for disposal, and more than 12.1 million gallons of impacted water have been removed from the derailment site. In either case, the waste is sent to disposal sites designed and permitted to accept the material in accordance with state and federal regulations. These locations regularly accept this type of material and were chosen due to their specific ability and the necessary permitting to dispose of these types of waste.

The waste disposal locations are approved by the U.S. EPA. Although we maintain close communications with the U.S. EPA, the Ohio EPA, and other state and local authorities concerning the sites selected, Norfolk Southern has ultimately contracted with the disposal facilities and paid for the waste disposal, pursuant to our obligations under the UAO and as part of our public commitment to cleaning up the derailment site and helping the community of East Palestine recover and thrive.

Question 5. Prior to the temporary moratorium on waste disposal at the derailment site, what justifications were provided to Norfolk Southern indicating that your company’s management of waste disposal was unsatisfactory to the EPA?

Throughout the cleanup process, Norfolk Southern has sent waste to disposal sites designed and permitted to accept the material in accordance with state and federal regulations. These locations regularly accept this type of material and were chosen due to their specific ability and necessary permitting to dispose of these types of waste.

Following the U.S. EPA’s UAO issued on February 21, 2023, and the subsequent letter to Norfolk Southern dated February 24, 2023, the U.S. EPA began reviewing and approving disposal locations and transportation routes for contaminated waste pursuant to the new requirements of the UAO. The U.S. EPA is required to comply with certain rules for remediations that it conducts or orders pursuant to authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Accordingly, under the UAO, the U.S. EPA required the proposed disposal sites to comply with CERCLA Section 121(d)(3) and 40 C.F.R. § 300.440. *See* UAO, Section 46. During this time, Norfolk Southern worked diligently to identify disposal facilities that met the relevant criteria and submitted them for approval by the U.S. EPA so that waste disposal could continue as soon as possible.

In addition, there have been periodic delays of waste disposal while Norfolk Southern and the U.S. EPA sought to provide assurances to state and local officials about the safe disposal of waste in their respective states and localities. Those efforts culminated with a letter, dated March 17, in which the U.S. EPA directed states not to block disposal at approved facilities.

Question 6. Why was testing for residents' private wells and indoor air quality only conducted upon residents' request?

See answer to Question 7 below.

Question 7. Did Norfolk Southern or, to your knowledge, any other organization participating in the response efforts consider proactively testing residents' private wells and homes for air and water contamination?

Water Sampling

Through information provided at the Family Assistance Center, and our website NSMakingItRight.com, we have encouraged residents to schedule an appointment for private well testing by calling a designated hotline and have covered the cost of the testing with no strings attached. To date, over **360** private water wells in Ohio and Pennsylvania have been tested, and none of the sampling results that have come back so far showed evidence of contaminants linked to the derailment.

In addition to the private well testing, Norfolk Southern has implemented a comprehensive program to test the public drinking water in East Palestine. Ohio EPA, and other local health agencies and local public water systems, are also conducting water sampling in East Palestine and in the broader region. And the U.S. EPA is providing additional support. East Palestine's municipal water sampling shows that the water is safe.

Air Sampling

In-home air monitoring is being conducted by contractors in conjunction with the U.S. EPA and Ohio EPA. As with the private well water testing program, we provide information on the availability of in-home air testing at the Family Assistance Center, and on our website NSMakingItRight.com, and have encouraged residents to schedule in-home air testing, at no cost to them. In-home air testing conducted to date has not shown hazardous detections of substances related to the incident.

In addition to in-home air monitoring, we have implemented a comprehensive air monitoring and sampling program in the community. Working alongside federal and state environmental agencies, we have collected millions of data points throughout East Palestine and the surrounding community. The U.S. EPA, Ohio EPA, and Pennsylvania DEP are all conducting their own testing.

- a. If not, please explain why a proactive approach to testing was not suggested by Norfolk Southern.**

Please see the response to Question 7 above.

Question 8. Did Norfolk Southern or, to your knowledge, any other organization participating in the UCS consider providing residents with alternative lodging in the first two weeks following the derailment?

Norfolk Southern is committed to making sure every resident affected by the derailment is made whole. As discussed above, we are reimbursing costs incurred related to the derailment, such as hotel costs or lost wages, and we have also paid certain lodging costs directly. There is no geographical limit on those reimbursements.

Question 9. The earliest publicly-available indication of alternative lodging being provided to residents was not until Sunday, March 5, 2023. Were residents provided an option to request alternative lodging prior to this date?

Norfolk Southern established our Family Assistance Center on February 4, 2023. Residents who were evacuated or impacted by the derailment can request reimbursement for lodging, food, clothing, gas, childcare, laundry, pet care, and more. We have also paid certain lodging costs directly. We have also established a \$1 million fund available immediately to the community.

Question 10. Can you provide an update on Norfolk Southern's work to establish a baseline for determining the risks posed to residents by dioxin contamination?

- a. Has the EPA been involved in this effort?
- b. Please indicate all other organizations that have assisted Norfolk Southern in establishing a dioxin baseline.

We are committed to working with the U.S. EPA, Ohio EPA, and state and local authorities to do what's right for the citizens of East Palestine. We understand the concerns of residents concerning dioxins and take them very seriously. The U.S. EPA and Ohio EPA have very high standards for health protections, and we continue to work with them, and other state and federal partners and expert consultants, for the safety of the community in East Palestine.

It is important to note that dioxins are everywhere in the environment. For that reason, the testing program directed by U.S. EPA seeks to distinguish the dioxins that may have been produced from the derailment from dioxins that can be produced from other sources such as forest and agricultural fires, residential wood burning, campfires, and municipal waste incineration.

Since March 10, Norfolk Southern and U.S. EPA, together, have been implementing a U.S. EPA-approved soil inspection and testing plan. The plan is a preliminary step to evaluate whether shallow soil near the derailment site may have been affected by wind transport of ash from the derailment and subsequent controlled release. Soil samples are being collected from locations where such material is observed, as well as other areas where no material is observed. The purpose of collecting some samples from where no ash material is observed is to understand background levels. The soil samples are sent to a laboratory where they are tested to determine if there are contaminants present that may be associated with the derailment or the controlled vent and burn. Specifically, the soil is tested for a range of semi-volatile organic compounds (referred to as "SVOCs"), including oil-based products, dioxins, and furans.

To date, we have completed **358** investigations and collected **294** soil samples.¹⁷

¹⁷ See <https://nsmakingitright.com/surface-soil/>.

Senator CARPER. Mr. Shaw, thanks very much for joining us today. Thank you for that statement, and again for the time you spent with me on the phone recently.

Next, we are pleased to welcome Debra Shore, the Regional Administration for Region V of the United States Environmental Protection Agency. Ms. Shore, you are welcome to begin. Some things have been suggested that the EPA maybe hasn't done everything as well as they could have done, should have done. My sense is that EPA was on the scene within hours of the derailment, and not only have you been there a constant presence, but we have seen our Administrator, Michael Regan, be there, and he will be there again. It is important; I commend you for that. We need for you to stay on the job, right on the scene, so thank you.

You are recognized.

**STATEMENT OF DEBRA SHORE, REGIONAL ADMINISTRATOR,
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
REGION V**

Ms. SHORE. Thank you, Chairman Carper, Ranking Member Capito, and members of the committee for inviting me here today and for the opportunity to address your questions.

I want to start by affirming that EPA's mission is to protect human health and the environment so that all communities across America have clean air, clean land, and clean water. The health and safety of those who have been affected by the Norfolk Southern train derailment is a top priority for me and for EPA.

That is why, as soon as EPA was notified of the train derailment on Friday, February 3d, EPA personnel were onsite in East Palestine within hours to support our State and local partners who were in the lead for emergency response efforts. Every day since, EPA has been boots on the ground, working in a bipartisan manner across all levels of government to help this community.

I have personally been in East Palestine listening to residents and have heard how devastating this derailment has been. They are understandably worried, and some are scared. Every time a train whistle blows, they are reminded of the trauma inflicted upon them by Norfolk Southern.

That is why we have used one of EPA's most powerful enforcement tools to hold Norfolk Southern accountable and to require the company to clean up the mess it made. I want to be abundantly clear: the residents of the greater East Palestine community are not alone. EPA is with them and will continue to be with them for as long as it takes.

Since the derailment, EPA has been leading robust air quality testing using state-of-the-art technology in and around East Palestine. We are currently conducting 24-7 air monitoring at 21 stations throughout the community. I am pleased to report that since the fire was extinguished on February 8th, EPA monitors have not detected any volatile organic compounds above levels of health concerns.

While EPA is encouraged by the data, we also recognize that the people of East Palestine still question the health and safety of their community and their loved ones. In response, EPA has been assisting with indoor air screenings for homes through a voluntary pro-

gram offered to residents to provide them with information and help restore their piece of mind. As of March 4th, approximately 600 homes have been screened through this program, and no detections of vinyl chloride or hydrogen chloride have been identified.

On the water side, Ohio EPA in partnership with the Pennsylvania Department of Environmental Protection, local health agencies, and public water systems continues to lead water sampling efforts, with EPA providing support.

What I have described so far summarizes EPA's ongoing efforts to protect the health and safety of those living in East Palestine, as well as in the surrounding areas of Ohio and Pennsylvania in the aftermath of this disaster.

Now, let me turn to how EPA is holding Norfolk Southern accountable. On February 21st, we issued a unilateral administrative order to Norfolk Southern, which includes a number of directives to identifying cleanup-contaminated soil and water resources, to attend and participate in public meetings at EPA's request, and to post information online, to pay for EPA's costs for work performed under this order.

EPA is overseeing Norfolk Southern's cleanup work to ensure it is done to EPA's specifications. The work plans will outline all steps necessary to clean up the environmental damage caused by the derailment. Most importantly, if the company fails to complete any of the EPA-ordered actions, the agency will immediately step in, conduct the necessary work, and then force Norfolk Southern to pay triple the cost.

EPA's order holds Norfolk Southern accountable and facilitates in the transition from the multiagency emergency response phase to a longer-term cleanup phase. Throughout my 11 days spent on the ground in East Palestine, I have learned that it is a proud and resilient community. Those who live there and in the surrounding communities have roots that go back generations. We owe it to these people to restore these beautiful communities to the special places we know they hold dear.

That is exactly what EPA is working to accomplish, all while continuing to work hand in hand with our partners at the local, State, and Federal levels.

Again, thank you for inviting me here today. I look forward to the dialog and to answering your questions.

[The prepared statement of Ms. Shore follows:]

Statement of Debra Shore
Regional Administrator for the
U.S. Environmental Protection Agency
Before the U.S. Senate Committee on
Environment and Public Works
March 9, 2023

Thank you, Chairman Carper, Ranking Member Capito, and Members of the Committee, for inviting me here today and for the opportunity to address your questions.

I want to start by affirming that EPA's mission is to protect human health and the environment so that all communities across America have clean air, clean land, and clean water. The health and safety of those who have been affected by the Norfolk Southern train derailment is a top priority for me and for EPA. That is why, as soon as EPA was notified of the train derailment on Friday, February 3, EPA personnel were on-site in East Palestine within hours to support our state and local partners who were in the lead for emergency response efforts. Every day since, EPA has been boots-on-the-ground, working with our Federal partners and our partners across all levels of government in a bipartisan manner to help this community.

I have personally been in East Palestine listening to residents and have heard how devastating this derailment has been. They are understandably worried. Some are scared. And every time a train whistle blows, they are reminded of the trauma visited upon them by Norfolk Southern.

That is why we have used one of EPA's most powerful enforcement tools to hold Norfolk Southern accountable and to require the company to clean up the mess it made.

I want to be abundantly clear: the residents of the greater East Palestine community are not alone. EPA is with them and will continue to be with them for as long as it may take to ensure the health and safety of this community.

Since the derailment, EPA has been leading robust air-quality testing, using state-of-the-art technology, in and around East Palestine.

We are currently conducting 24/7 air monitoring at 21 stations throughout the community. I am pleased to report that since the fire was extinguished on February 8, EPA monitors have not detected any volatile organic compounds above established levels of health concerns.

While EPA is encouraged by the data, we recognize that the people of East Palestine still question the health and safety of their community and loved ones. In response, EPA has been assisting with indoor air screenings for homes through a voluntary screening program offered to residents to provide them with information and help restore their peace of mind.

As of March 4, approximately 600 homes have been screened through this program, and no detections of vinyl chloride or hydrogen chloride have been identified.

On the water side, Ohio EPA, in partnership with Pennsylvania Department of Environmental Protection, local health agencies, and public water systems, continues to lead water sampling efforts. EPA is providing support to the state as needed.

What I have described so far summarizes EPA's ongoing efforts to protect the health and safety of those living in East Palestine, as well as in surrounding areas of Ohio and Pennsylvania, in the aftermath of this disaster. Now let me turn to how EPA is holding Norfolk Southern accountable and continuing close coordination of cleanup activities across all levels of government. On February 21, EPA issued a Unilateral Administrative Order to Norfolk Southern which includes a number of directives, including:

- Identifying and cleaning up contaminated soil and water resources;
- Attending and participating in public meetings at EPA's request and posting information online;
- Having the Company pay for EPA's costs for work performed under this order.

EPA is overseeing Norfolk Southern's cleanup work to ensure it is done to EPA's specifications. We will also ensure that it aligns with the company's workplans, all of which will be reviewed and approved by EPA. Those workplans will outline all steps necessary to clean up the environmental damage caused by the derailment. Most importantly, if the company fails to complete any of the EPA ordered actions, the agency will immediately step in, conduct the necessary work, and then force Norfolk Southern to pay triple the cost. EPA's order holds

Norfolk Southern accountable and facilitates in the transition from the multi-agency “emergency response” phase to a longer term clean up phase.

Throughout my 11 days spent on the ground in East Palestine, I have learned that this is a proud and resilient community. Those who live there and in surrounding areas of Ohio and Pennsylvania have roots that go back generations. We owe it to East Palestine and to all those in affected areas to restore these beautiful communities to the special places we know them to be. That is exactly what EPA is working to accomplish – all while continuing to work hand in hand with our partners at the local, state, and federal levels.

Again, thank you for inviting me here today. I look forward to the dialogue and answering your questions.

Senate Committee on Environment and Public Works
Hearing Entitled, *"Protecting Public Health and the Environment in the Wake of the Norfolk
Southern Train Derailment and Chemical Release in East Palestine, Ohio"*
March 9, 2023
Questions for the Record for Debra Shore

Chairman Carper:

1. When did the U.S. EPA first arrive on the scene of the train derailment in East Palestine, Ohio?

Response: As soon as EPA was notified of the train derailment on Friday, February 3, EPA personnel deployed to East Palestine within hours to support our state and local partners who were leading the emergency response efforts. The first EPA Emergency Response notification email was sent at 1:59 a.m. on Saturday, February 4. The initial notification stated that two On-Scene Coordinators (OSCs) and two members of EPA's Superfund Technical Assessment and Response Team (START) were already en route to the incident. The first EPA OSCs arrived on scene between 2:30 a.m. and 4:30 a.m. EST on Saturday, February 4. By the time of the next Emergency Response notification, at 6 p.m. that same day, EPA had mobilized eight OSCs, along with START.

2. Once U.S. EPA was on the scene in East Palestine, what was the state of the Unified Command structure?
 - a. Did any members of the Unified Command structure take unilateral action without fully consulting with the other involved organizations? If so, who? And what did they do?
 - b. What prevented U.S. EPA from leading unified command in the first days after the train derailment?
 - c. At what point did it become apparent that the U.S. EPA needed to lead the Unified Command structure and for what reasons was that decision made?

Response: EPA personnel were on-site in East Palestine within hours to support our state and local partners who were in the lead for emergency response efforts. Initially, there was an informal Unified Command in place that was focused on firefighting and other life-saving efforts, and it was appropriately led by the local Fire Chief. At the time, EPA considered the members of both the Unified Command and Assisting and Cooperating Agencies to be those organizations that were present for one or more ad hoc meetings with the Incident Commander (the local Fire Chief) and the lead agency for the response, the Ohio Environmental Protection Agency (Ohio EPA). EPA considered itself part of the initial informal Unified Command because it was present for several of these ad hoc meetings.

After EPA issued its Unilateral Administrative Order (UAO) on February 21, as the response moved beyond initial firefighting and into a removal action, EPA formalized a Unified Command structure to coordinate cleanup efforts with Ohio EPA, the Pennsylvania Department of Environmental Protection (PA DEP), the Ohio Emergency

Management Agency (Ohio EMA), the Federal Emergency Management Agency (FEMA), the U.S. Department of Health and Human Services (HHS), local officials, and Norfolk Southern. A Unified Command improves information flow and coordination, optimizes each agency's activities, and enhances the team's ability to achieve cleanup objectives.

3. Was the controlled burn the only option available, or could other actions have been taken to release the pressure in the affected rail cars?

Response: At the time of the vent and burn, the local Fire Chief was the Incident Commander, and the State of Ohio was leading the emergency response. EPA served in a supporting role for state and local response officials. EPA's role during the controlled vent and burn was to conduct air monitoring and sampling from outside the evacuation zone. Accordingly, Norfolk Southern and the authorities that made the decision to conduct the controlled vent and burn operation would be in the best position to answer this question.

4. In the wake of the incident, there were calls from the community and outside experts to test for dioxins in the air and soil in East Palestine and surrounding communities.
 - a. What are dioxins?
 - b. What is the agency's legal responsibility and mission responsibility to protect Americans from dioxin contamination?
 - c. In your opinion, why were community members calling for dioxin testing?
 - d. Why wasn't dioxin testing conducted immediately following the controlled burn?

Response: Dioxins refers to a group of toxic chemical compounds that share certain chemical structures and biological characteristics. Several hundred of these chemicals exist. Dioxins are a secondary byproduct of incomplete combustion of organic compounds, formed from the direct byproducts and other chemicals present in the environment. Sources of dioxins include the backyard burning of trash, waste incineration, fires, and burning of fuels (like wood, coal, or oil). Dioxins can cause cancer, reproductive and developmental problems, damage to the immune system, and can interfere with hormones.

EPA's mission is to protect human health and the environment, and that mission includes protecting people from dioxins and other pollutants and contaminants in accordance with the Agency's authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA monitored for "indicator chemicals" (such as chlorobenzenes and chlorophenols), the presence of which might suggest the potential for elevated levels of dioxins. To address concerns shared with EPA by residents, EPA required Norfolk Southern to sample directly for dioxins in the soil. EPA reviewed analytical results from the soil sampling related to the controlled burn. The data indicate that, for the vast majority of properties, levels of dioxins in the

samples are similar to typical background levels in the area. A few sample results were elevated; however, those elevated samples were all taken next to highways/roads or on commercial/industrial properties. In the event that dioxins attributable to the derailment fires are found in the area and pose unacceptable risks to human health and the environment, EPA will direct the immediate cleanup of the area in coordination with Ohio EPA, PA DEP, and other partners.

5. Do you feel the U.S. EPA had the appropriate resources to respond to this disaster?
 - a. Could the U.S. EPA provide a more comprehensive response with additional resources, staff, or technology?

Response: EPA has used all available resources and appropriate authorities to respond to this disaster and to hold Norfolk Southern accountable. The Agency's response has been comprehensive, and has included the deployment of more than 300 EPA personnel. Under EPA's lead, there has been tremendous progress in cleaning up the site and moving the waste out of the community safely and quickly. More than six months after the derailment, EPA maintains a substantial presence in East Palestine to oversee the work of Norfolk Southern and its contractors, and the Agency will stay in the community as long as necessary to ensure the cleanup work is completed. The Agency's FY24 budget proposal would help ensure that EPA continues to have the resources it needs to continue to respond effectively to environmental disasters.

6. Many East Palestine residents have spoken out about fears for their health and safety in the weeks and months following the train derailment, initial chemical release, and eventual controlled burn
 - a. Why do you believe that the community continues to feel unsafe?
 - b. What could the U.S. EPA or other agencies have done better in the early days after the incident to communicate levels of uncertainty and risk to the community?
 - c. How does the agency plan to improve transparency and trust with the community of East Palestine?
 - d. Does the agency have any plans to create an EPA Ombudsman or scientist for the community?
 - e. What risks and uncertainty still remain for the community in and around East Palestine?

Response: EPA recognizes that the effects of the derailment have impacted the community's sense of safety. Air monitoring and sampling continues to indicate that there are not immediate health concerns, but we want to be responsive to the community and do everything we can to reassure them. Therefore, pursuant to EPA's UAO, Norfolk Southern has been providing temporary relocation at no cost to residents during soil excavation work, as well as financial assistance to businesses. EPA is also committed to transparency and to communicating with the affected communities. To that end, EPA established a website that provides frequently updated information to

the public about the Norfolk Southern derailment, including: descriptions of cleanup activities; information, including test results, about air, water, and soil sampling and monitoring; information about resources for affected residents; FAQs; news releases; and legal and other documents.

Additionally, EPA is publishing the East Palestine Train Derailment Response Newsletter for communities in Ohio and Pennsylvania on its website. These newsletters are being mailed to area residents and distributed throughout the community. To facilitate community information and engagement with EPA's work, EPA has established an information line at (330) 775-6517 and a Community Welcome Center in East Palestine to provide a one-stop-shop for community information. Further, EPA has participated in press briefings and regular townhalls in East Palestine and is committed to keeping residents informed.

In March, EPA entered into an agreement with the Village of East Palestine to provide the community with access to technical assistance through EPA's National Technical Assistance Services for Communities program. The goal of the program is to provide science resources to the community at no cost to help translate and interpret the science, regulations, and environmental policies that surround the train derailment emergency and response efforts.

EPA deployed an extensive network of air monitoring and sampling equipment to collect data on air quality throughout East Palestine and in the area near the derailment site. Air monitoring and sampling data have shown and continue to show that air quality in the community is normal and that chemicals of concern have remained below screening levels. Ohio EPA has been conducting weekly monitoring of East Palestine's municipal water and five raw water wells that are the source of the municipal drinking water; to date, no chemicals associated with the derailment have been detected in either raw or treated water. While the test results to date are reassuring, the agencies are continuing to conduct air and drinking water monitoring to ensure there are no risks to the community.

7. What long term plans does the agency have with regard to remediation and holding Norfolk Southern accountable and how are those plans being communicated to the community?

Response: EPA issued a UAO on February 21, which became effective on February 27. The order governs all aspects of the current removal action being done under the Agency's removal authority and established EPA as the lead for overseeing the response. The UAO requires Norfolk Southern to assess and clean up contaminated soil and water resources; to conduct air monitoring/sampling in the community; and to attend and participate in public meetings at EPA's request. EPA has been reviewing and approving portions of the Removal Work Plan that serves as the framework for the cleanup, ensuring that the work proceeds expeditiously and protectively. If Norfolk Southern fails to complete any actions required by UAO, the United States may seek to (1) assess daily penalties, (2) require Norfolk Southern to pay up to three times what it cost EPA to do the cleanup work (also known as treble damages), and/or (3) obtain a

judicial order from a federal district court requiring Norfolk Southern to do the remaining cleanup work.

In addition, on March 30, 2023, the United States brought an action in the United States District Court for the Northern District of Ohio seeking declaratory relief, penalties, and appropriate injunctive relief for Norfolk Southern's failure to comply with federal environmental laws. The action seeks full payment of the United States' response costs, as well as penalties and injunctive relief for discharges to the water in and around East Palestine.

EPA has implemented a multi-pronged approach to communicating with the community, including in-person discussions at the EPA Welcome Center in downtown East Palestine; formal presentations and in-person discussions at a series of public information sessions (including three public information sessions focused on health issues); newsletters that provide regular, detailed updates to the community on the cleanup progress; and a website showing our validated data, sampling plans, fact sheets, and informational videos.

8. How have the safety protocols for handling hazardous materials changed in the last five years?
 - a. What steps are you taking in the next year to ensure safety for everyone involved?

Response: EPA shares responsibility with the Occupational Safety and Health Administration to ensure the safe handling of hazardous *materials* in the workplace; EPA, along with state authorized programs under the Resource Conservation and Recovery Act (RCRA), work to ensure the proper management of hazardous *wastes*. Facilities that generate or treat hazardous wastes managed according to regulatory requirements under RCRA may also be subject to regulation under the Clean Air Act and Clean Water Act.

On June 30, 2018, EPA established a national system for tracking hazardous waste shipments electronically. This system, known as "e-Manifest," modernized the nation's cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states. In addition, the e-Manifest system provides more accurate and timely information on waste shipments, rapid notification of discrepancies, and an increased effectiveness of compliance monitoring of waste shipments by regulators. At the same time, RCRA regulations to ensure protective transportation, treatment, storage and disposal of hazardous waste have continued in force. The U.S. Department of Transportation (DOT) is the best source of information regarding federal requirements for ensuring safe transport of the broader category of hazardous materials.

EPA is continuing to take steps to ensure that there are multiple layers of protection put in place to ensure safe disposal of wastes. National RCRA regulations governing the proper management of hazardous and non-hazardous solid waste remain in force. Hazardous waste treatment, storage, and disposal facilities undergo a rigorous

permitting process by the authorized state, or EPA, to ensure the safe management of hazardous waste. Permits are renewed and updated at least every ten years, and these facilities are inspected by the state and EPA for compliance. In addition to RCRA, the CERCLA Off-Site Rule provides an additional layer of protection, to ensure that CERCLA waste moved off-site is only placed in an acceptable facility that complies with applicable requirements. It authorizes EPA to make unacceptability determinations immediately effective in extraordinary situations, including “egregious” violations by a facility.

9. “RCRAInfo” is EPA’s comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The system enables cradle-to-grave hazardous waste tracking of many types of information regarding the regulated universe of RCRA hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. A decade ago, Congress enacted legislation that created EPA’s e-Manifest program. Developed under EPA’s Central Data Exchange (CDX) program, e-Manifest is the national electronic hazardous waste manifest system. CDX supports more than 175 data exchanges with states, tribes and industry—directly supporting EPA’s mission to protect human health and the environment.

The CDX e-Manifest system supports the real-time electronic manifest workflow, providing real-time tracking of the handler that has custody of hazardous waste shipments. Regulators have access to the data for reporting and enforcement needs, and any registered handler is able to access e-Manifest to view and edit their manifests. Additionally, e-Manifest data is made available to the public 90 days after receipt. E-Manifest is funded through user fees collected from receiving facilities who then no longer carry the burden of filing the paper-based manifests in multiple states in the chain of custody. The rail industry is not required by the Federal rule (40 CFR 262.23(d) and 263.20(f)) to provide full chain of custody tracking in e-Manifest.

- a. Has the EPA looked at the successful CDX e-Manifest system already developed and implemented at EPA for hazardous waste transport tracking and considered that same EPA CDX technology for hazardous material transport activities?
- b. Should rail transport activity, which does not utilize EPA’s e-Manifest system, be considered a transporter that should utilize e-Manifest for both hazardous waste and perhaps hazardous materials?

Response: Because RCRA only provides authority over wastes, EPA has not considered the use of e-Manifest for the transport of hazardous materials. E-Manifest facilitates the electronic transmission of the Uniform Hazardous Waste Manifest, a form required by EPA and DOT for all generators who transport, or offer to transport, hazardous waste for off-site treatment, recycling, storage, or disposal. EPA continues to coordinate with DOT with respect to e-Manifest tracking of hazardous waste.

DOT permits rail companies to use tracking documents submitted to EPA's e-Manifest system to fulfill DOT recordkeeping requirements for rail transport of hazardous waste, with the transport data coming from either the railroad network's tracking system or from the receiving facility that provides the final copy of the signed manifest. EPA continues to work with the rail industry to implement the e-Manifest workflow.

10. Under proposed changes to EPA's Risk Management Program (RMP), certain hazardous chemical facilities are required to assess whether they should be using safer chemicals in their processes. These facilities are the source and destination of rail tankers like the ones that were set on fire following the East Palestine incident.

- a. Could the rail transport of safer chemicals reduce the severity of incidents like East Palestine?

Response: The Clean Air Act requires facilities (i.e., stationary sources) handling specific chemicals above certain amounts to implement a Risk Management Program (RMP). The RMP regulations do not apply to rail transportation activities as they are not considered stationary sources under the Clean Air Act.

11. EPA is currently working to amend the Risk Management Planning (RMP) program to better prevent emergency airborne releases of toxic and flammable extremely hazardous substances (EHS) from fixed facilities. The agency, the industry, and the Committee have long recognized that in many cases safer manufacturing methods can reduce or eliminate EHS chemical hazards. For this reason, EPA is proposing that certain petroleum refining and chemical manufacturing facilities conduct Safer Technology and Alternatives Analysis (STAA) to identify such opportunities (87 FR 53556). Reducing chemical hazards at RMP facilities also often removes the need to ship EHS substances to or from the facilities. The Association of American Railroads has advocated the use of safer manufacturing methods where feasible to avoid the transport of EHS substances and the associated liabilities (see AAR fact sheet).

However, the Committee is concerned that EPA's proposed RMP rule does not require STAA assessments from some 95% of RMP facilities, including significant sectors that ship or receive RMP substances by rail. The East Palestine derailment involved vinyl chloride, an RMP-listed flammable chemical, yet some EHS, particularly toxic inhalation hazard substances, pose even greater risk.

For these reasons, please provide the Committee a status review of the agency's plans to include STAA requirements in the RMP program for all RMP facilities. Please also specify which RMP facilities ship or receive RMP substances by rail and an estimate of the number of these facilities by industry sector.

These figures should include:

- a. RMP petroleum refineries and chemical manufacturers that are more than one mile from similar facilities.

- b. Drinking water and wastewater treatment facilities that receive RMP disinfection chemicals by rail.
- c. Commercial bleach facilities outside of industry code NAICS 325, including wholesale distributors, that ship or receive RMP chemicals by rail.

Response: The Clean Air Act requires that facilities (i.e., stationary sources) handling specific hazardous substances above certain amounts to implement an RMP that is updated and submitted to EPA every five years. The RMP regulations do not apply to rail transportation activities as they are not considered stationary sources under the Clean Air Act. However, once a rail car is no longer in transportation and if it exceeds a regulatory threshold quantity, then it becomes part of a stationary source that is subject to the RMP regulation and must be addressed in the source's emergency response program.

EPA continues to review the RMP rule to evaluate how we can better protect communities from chemical accidents. On August 18, 2022, EPA proposed a rule to strengthen the program. Its emphasis is on protecting communities most at risk of having an accidental release from a nearby facility. Under the proposal, the facilities in these communities would be required to do more to prevent chemical accidents, including conducting a safer technologies and alternatives analysis (STAA), more thorough incident investigations, and third-party audits. The Agency expects to issue the final rule later this year. At this time, EPA cannot provide any additional information regarding the contents of the final rule. EPA does not track which RMP facilities ship or receive RMP substances by rail.

EPA's records show 1,121 RMP petroleum refineries or chemical manufacturing facilities (stationary sources) greater than 1 mile from similar facilities, but the Agency does not have a data source that tracks these facilities' rail use. EPA does not track which RMP facilities ship or receive RMP substances by rail.

- 12. Many hazardous chemicals transported by rail are created at a facility regulated by the RMP and are transported to another facility regulated by the RMP.
 - a. How does EPA's RMP provide emergency responders with advanced notice of the kinds of hazardous chemicals that are being transported into or out of their jurisdiction?
 - b. How do RMP emergency response training requirements address response to incidents involving railcars? What improvements can be made under the existing RMP regulation to address these concerns?

Response: EPA's Risk Management Program regulations do not apply to transportation activities. However, the RMP regulations include requirements for stationary sources to coordinate with local emergency planning and response organizations. For Program 2 and 3 facilities, "The owner or operator of a stationary source shall coordinate response needs with local emergency planning and response organizations to determine how the stationary source is addressed in the community emergency response plan and to

ensure that local response organizations are aware of the regulated substances at the stationary source, their quantities, the risks presented by covered processes, and the resources and capabilities at the stationary source to respond to an accidental release of a regulated substance.” 40 C.F.R. § 68.93. For Program 1 processes, the owner or operator must “[e]nsure that response actions have been coordinated with local emergency planning and response agencies” and provide a certification that addresses arrangements for emergency response entry. *See* 40 C.F.R. § 68.12(b)(3)-(4).

EPA’s Risk Management Program regulations do not apply to transportation activities. However, once a rail car is no longer in transportation and if it exceeds a regulatory threshold quantity, then it becomes part of a stationary source subject to the RMP regulation and must be addressed in the source’s emergency response program. EPA continues to review the RMP rule to see how we can better protect communities from chemical accidents.

13. Does EPA’s RMP rule omit certain stationary railcars storing hazardous substances, like those released in East Palestine, from being required to have risk management plans? How will EPA account for the compounding hazards posed by these railcars to workers and communities under the RMP?

Response: The Clean Air Act requires that facilities (i.e., stationary sources) handling specific chemicals above certain amounts implement an RMP. EPA continues to review the RMP rule to see how we can better protect communities from chemical accidents.

14. The Center for American Progress (CAP) produced a series of reports (2006-2010) listing over 550 chemical facilities that have switched to safer chemicals or processes and eliminated catastrophic hazards to millions of Americans. Other recent examples include all US Clorox facilities and the Salt Lake Chevron refinery. In doing so, these facilities have also eliminated the transport of some of the most hazardous chemicals (chlorine, hydrogen fluoride or HF) shipped in 90 ton rail cars through America’s backyard.
 - a. Why is the US EPA hesitant to use its Clean Air Act authority to require RMP facilities to use safer, cost effective alternatives where they have already been proven to work?

Response: EPA continues to review the RMP rule to identify opportunities to better protect communities from chemical accidents.

15. Railcars (or trucks) carrying highly hazardous chemicals are not regulated by the Risk Management Program (RMP) rule when in transit. However, these vessels originate from or arrive at highly hazardous facilities regulated by the RMP where the chemicals were developed, are processed, or stored. Do you believe that the proposed RMP rule, currently being reviewed by EPA, should be strengthened by including measures to reduce the use and storage of bulk hazardous substances by requiring Safer Technology and Alternatives Assessments (STAA) of all RMP facilities?

- a. The current proposed RMP rule would require approximately 5% of RMP facilities to conduct an STAA but does not require RMP facilities to respond to STAA by implementing safer technologies or alternatives to safer chemicals. If the final RMP rule required facilities to not just assess but actually adopt safer chemicals and processes, would it limit the magnitude and severity of these kinds of incidents?
- b. Would it result in fewer hazardous materials on rails and trucks meaning safer workers and fenceline communities?

Response: EPA cannot predict the impacts of STAA on the magnitude of these kinds of incidents or on the volume of hazardous materials on rails and trucks, as the RMP regulations do not apply to transportation activities.

- 16. The proposed RMP rule seeks to limit public access to RMP data to people who live within six miles of an RMP facility. Advocates are proposing complete public access to RMP data, as providing non-restricted RMP information in an accessible online database may also help first responders, advocates, and regulators have better information about the hazardous substances that may be transported in and out of their communities.
 - a. Please explain why EPA seeks to limit public access to RMP data to people living within six miles of an RMP facility?
 - b. In East Palestine, is EPA's response greater than, or less than six miles of the train derailment site?
 - c. Please discuss how EPA's recent proposed changes to the current Risk Management Program will help protect the health and safety of first responders and the local community.

Response: EPA believes that the proposed six-mile restriction is appropriate because more than 90 percent of all worst-case scenarios are less than six miles from an RMP facility. A six-mile radius allows people in areas with the potential to be impacted by a worst-case scenario to have access to critical information while also providing a limit on widespread access to nationwide assembly of data. A six-mile radius limits the potential security risk of providing this information to the entire public, which was identified as a concern in the 2019 reconsideration rule.

EPA conducted roaming air monitoring and surface water sampling within a 20-mile radius of the train derailment. EPA has been coordinating with state, federal, and local partners to ensure that any potential impacts to human health and the environment both within and beyond a six-mile radius of the site are appropriately responded to.

EPA believes the proposed changes to the RMP rule strike a balance between security concerns and the interests of potentially affected people who could benefit from the information—personal preparedness in the event of an accident, knowledge of safety conditions where one lives, and more informed participation in community safety planning.

17. EPA has repeatedly stated that the air in and around East Palestine is safe – that the levels of monitored chemicals “are below levels of concern for adverse health impacts from short-term exposures.” However, as you are undoubtedly aware, scores of residents continue to suffer adverse health impacts from those short-term exposures.
- How can you help make sense of that for residents?
 - How has the agency working with federal and state health departments to better understand the impact to public health in East Palestine, Darlington Township, and other impacted communities?
 - What resources does EPA have available to community members concerned about their health?

Response: EPA takes residents’ health concerns very seriously. On February 17, staff from the Centers for Disease Control and Prevention (CDC), including CDC’s Agency for Toxic Substances and Disease Registry (ATSDR), began arriving in East Palestine and surrounding communities to assess the public health impact of the train derailment, among other activities. CDC and ATSDR also collaborated with local and state partners to conduct an Assessment of Chemical Exposure (ACE) investigation of impacted communities in both Ohio and Pennsylvania and worked with the health departments to analyze the data.

Federal and state health officials released the ACE investigation results at a public meeting on June 6, and full reports are expected soon. In addition, on June 1, EPA facilitated an information session by the National Institutes of Health (NIH) about a workshop being held by the National Academies of Sciences, Engineering and Medicine that NIH and CDC are funding in the Fall of 2023. This workshop aims to be inclusive of the communities’ concerns and input, and to explore potential surveillance and research priorities to inform the government’s understanding of the exposures, health risks, and opportunities for additional health investigations that could further the well-being of those impacted by the East Palestine Train Derailment and similar disasters going forward. If anyone feels unwell, EPA encourages them to go to their primary care doctor, the East Liverpool City Hospital East Palestine clinic—which is a permanent clinic funded by the State of Ohio that opened to help residents impacted by the derailment—or the Community Action Agency of Columbiana County’s mobile health, behavioral health, and dental center.

18. EPA’s air testing data shows approximately 50 different chemicals that have been detected, several of which are carcinogens, like benzene and 1,3 butadiene.
- While the agency says that the levels of the individual chemicals are safe, how is EPA thinking about the cumulative effects of residents inhaling so many different toxic chemicals?
 - How is EPA communicating that to residents?

Response: Under CERCLA, EPA assesses the total risk from site- or incident-related contaminants. EPA assesses the potential for additive or cumulative effects differently for carcinogens and non-carcinogens. To assess the overall potential for non-carcinogenic effects posed by several chemicals, the hazard index (HI)—a calculated risk indicator—for each chemical is evaluated for the receptor population (e.g., residents) and the separate indexes are summed. Cancer risks from various exposure pathways are assumed to be additive for groups of chemicals with similar mechanisms of action. Total exposure cancer risk is equal to the sum of cancer risk for each of these groups evaluated for a receptor population.

EPA continues to engage directly with the community to ensure that residents have access to up-to-date information. EPA's website includes regular updates regarding EPA's review of the air monitoring and sampling data.

19. Researchers from Texas A&M and Carnegie Mellon have tested the air as well. They stated that the test method the EPA is using to measure chemicals like acrolein on the scene has a limit that is too high to pick up levels relevant to health.
 - a. Why are university researchers using more-sensitive detection methods than the EPA?
 - b. How could the EPA better facilitate / empower / coordinate universities and small organizations to assist in rapid response efforts for man-made disasters?

Response: The long-term risks referenced by Texas A&M's analysis assume a lifetime of exposure, which means constant exposure—100% of the time—over approximately 70 years of a person's lifetime.

Carnegie Mellon's website indicates that the mobile instrumentation/methods they used for air testing at the site have sensitivity at the parts per billion level. Methods used by EPA have the same or greater sensitivity (parts per trillion level). While monitoring air at the site, EPA has used multiple types of measurement equipment – stationary, hand-held, mobile monitoring, and discrete sampling. EPA is committed to continuing to monitor the air in East Palestine to ensure that these levels remain safe over time. EPA values the work that universities and other scientists are doing, and our staff welcomes discussions with those scientists about testing methods and findings. EPA has engaged with university researchers, including via meetings, sharing information, and making data publicly available on the Agency's website.

20. A team from Purdue University reviewed the available data and noted that there is inconsistent testing of chemicals across media. For example, acrolein is tested in the air but not in the water; TCE was tested in the air and municipal water but not surface or private well water.
 - a. Can you help us understand the apparent inconsistencies in testing?

Response: The responding agencies are taking great care to ensure chemicals associated with the derailment are tested across media. The manner of release, as well as chemical fate and transport, influence testing. For example, acrolein, a volatile organic

compound, was tested in the air because one of the ways it forms is from burning of organic matter such as trees and other plants and fuels such as gasoline and oil. Acrolein that enters the air as a vapor breaks down within days; its half-life is 15-20 hours in the atmosphere. Therefore, it is not likely to be present in the water as a result of the derailment. If acrolein is introduced into water, it breaks down quickly. Trichloroethylene (TCE) was tested in surface water and private well water. The responding agencies are accomplishing consistent testing of chemicals associated with the derailment as Norfolk Southern develops various work plans for sampling and submits those to EPA for review and approval, as required by EPA's UAO.

Professor Whelton's March 7, 2023, letter to the Committee on the Environment and Public Works contains several inaccuracies. An EPA staff member reached out to Professor Whelton via email on February 26 with an offer to discuss any questions that Professor Whelton may have and potentially share data, but the EPA staff member did not receive a response. More recently, on April 12, EPA received a letter from Professor Whelton expressing concerns about certain private drinking water sampling results provided by Norfolk Southern's contractor to a household in East Palestine. On May 25, EPA sent Professor Whelton a letter responding to his concerns and encouraging Professor Whelton to consult with the Columbiana County Health District before he provides public health recommendations, such as not drinking municipal water, to community members.

21. According to analysis conducted by Purdue University and shared with the Committee, some of the chemicals found in the water "could be present in deposited particulate matter observed in homes and properties." They go on to say: "It is unclear why responders have not conducted indoor surface analysis to mitigate acute exposures and provide necessary guidance on safe cleaning." As of March 21, EPA is reporting that it has conducted 621 indoor air screenings.
 - a. Will EPA screen indoor surfaces as well? If not, why not?
 - b. Are surface wipes being used to collect any dangerous particles that may have fallen onto household surfaces, especially in homes where residents have small children or where residents are complaining about potential symptoms of chemical exposure, such as smelling strong odors in the home, headaches and nausea? If not, why not?

Response: Surface wipe sampling is not currently being performed nor is it recommended for quantitative evaluation. Wipe samples may be used qualitatively to determine whether an area was impacted by an event; however, contaminant concentration estimates derived from wipe samples are of limited utility in determining increased risk to human health or the environment, as this type of information (generally expressed in terms of mass/area) cannot be reliably converted into exposure concentrations terms that are used for risk analysis.

Based on air monitoring and air sampling conducted at and around the East Palestine Train Derailment site, contaminated creeks, and in the surrounding communities, the primary contaminants of concern (vinyl chloride, n-butyl acrylate) have not been

detected at sustained levels that increase risks to human health in the community. The monitoring and sampling continue to occur 24 hours per day, 7 days per week and are enhanced during periods of intrusive work activity. N-butyl acrylate has an extremely low odor threshold that is lower than levels known to have negative effects on human health. As a result, it is possible to detect n-butyl acrylate by smell at exposure concentrations that are not associated with potential health effects. EPA acknowledges that odors periodically enter the community. However, sampling and monitoring show no sustained levels of concern of these or other volatile chemicals.

22. According to a February 10th tweet from Region 5, “EPA is assisting with screening efforts for residents who request to have their homes tested for chemicals from the fire. To request screening, call the Norfolk Southern residential re-entry hotline.”

a. Is EPA conducting those screenings or is Norfolk Southern performing the tests?

Response: When Norfolk Southern contractors performed the screenings, they were accompanied by EPA contractors, who conducted oversight. EPA also performed screenings.

23. During your testimony, you stated that the home screenings detected no vinyl chloride or hydrogen chloride.

a. Are those the only two chemicals being tested for in homes?

b. Why is EPA only offering the indoor air screening to residents within the evacuation zone?

Response: Air monitoring in homes was conducted for total volatile organic compounds, which includes the current contaminants of concern (vinyl chloride, n-butyl acrylate), but the measurement is not specific to a single chemical. In addition, because n-butyl acrylate has an odor threshold much lower than levels of concern, monitoring teams note if odors are present in the home.

Extensive air monitoring and sampling has demonstrated no ongoing impacts to ambient air in the community. When vapor compounds are detected at the boundary (fenceline) of the derailment site due to work activities, such as excavation or waste loading, they quickly dissipate. The boundaries of the evacuation zone are well beyond the area of expected vapor releases from the site, and using the evacuation zone to conduct indoor air screenings is a cautious, conservative measure.

24. Residents were offered commercial cleaning inside their homes but not until weeks after the evacuation order was lifted and after many had cleaned on their own. Why didn't EPA immediately offer commercial cleaning?

a. How many individuals have taken advantage of the option for commercial cleaning?

b. How is EPA providing guidance to the community around safe cleaning?

Response: Norfolk Southern, with EPA oversight, is offering indoor home and place of business cleaning to anyone within the village of East Palestine, Ohio limits or within the 1-mile by 2-mile Ohio-Pennsylvania evacuation area. EPA distributed a factsheet outlining the indoor cleaning program, held a public meeting to answer questions from property owners and has received interest from 155 property owners. EPA is currently scheduling pre-cleaning interviews with those interested, and the first cleanings have been completed. While EPA initiated planning for indoor structure cleaning in February, those plans were put on hold as cleanup construction started and community members were offered financial assistance for temporary relocation. Dust was being generated from support zone areas, and it was determined that cleaning would be most effective at the end of the excavation work.

25. To date, Norfolk Southern and their contractors haven't built a lot of trust with East Palestine residents and the surrounding communities. The community is demanding that all testing be independent – meaning that it would be completed independent of Norfolk Southern and its contractors.

The Administrative Order EPA had Norfolk Southern sign, states: "The qualifications of the persons undertaking the Work for [the company] shall be subject to EPA's review for verification based on objective assessment criteria (e.g., experience, capacity, technical expertise) and that they do not have a conflict of interest with respect to the project. EPA retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by [the company]."

- a. Has EPA heard similar concerns, and if so, is the agency looking into solutions that would address these community concerns?
- b. Are there steps EPA can take to ensure that monitoring and sampling activities are independent and reliable, given Norfolk Southern's role in hiring the contractors and overseeing operations?
- c. Could EPA use its apparent broad authority to oversee the response to disapprove of some or all of these contractors?
- d. Are there new authorities Congress should consider that would allow EPA to intervene and offer independent testing as part of its response to a hazardous waste incident under CERCLA?

Response: EPA has statutory authority to issue a UAO, which is an enforcement instrument that EPA can use to require parties to take a response action. EPA can issue a UAO when there is a finding that there may be an imminent and substantial endangerment to public health or welfare or the environment because of the threat or actual release of hazardous substances.

On February 21, EPA issued a UAO to Norfolk Southern at the East Palestine Train Derailment Site. The UAO contains a number of requirements, including but not limited to:

- **Norfolk Southern must submit a proposed Removal Work Plan for review (including review by scientists, toxicologists, engineers, and others) and approval by EPA;**
- **Norfolk Southern must make revisions or modifications to the Removal Work Plan as directed by EPA;**
- **Norfolk Southern must implement all response activities as outlined in the approved Removal Work Plan;**
- **Norfolk Southern must submit a proposed Sampling and Analysis Plan (consisting of a Field Sampling Plan and a Quality Assurance Project Plan) to EPA for review and approval;**
- **Norfolk Southern must notify EPA five days in advance of any sample collections and must provide split or duplicate samples to EPA upon request (EPA also has the right to take any additional samples that EPA deems necessary);**
- **Norfolk Southern must ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to the UAO are conducted in accordance with procedures approved by EPA. Further, Norfolk Southern must ensure that these laboratories meet specific competency requirements and perform all analyses using EPA-accepted methods. Finally, Norfolk Southern must give EPA access at reasonable times to all laboratories the company is utilized for work required by the UAO;**
- **Norfolk Southern must perform all work under the UAO under the direction and supervision of qualified personnel. Prior to conducting work under the UAO, all Norfolk Southern must provide EPA with names, titles, contact information, and qualifications for all personnel (including contractors, subcontractors, consultants, and laboratories) to be used in carrying out the work. EPA retains the right, at any time, to disapprove of any or all of the contractors and/or subcontractors retained by Norfolk Southern; and**
- **Norfolk Southern must pay EPA all response costs incurred or to be incurred by EPA in connection with the UAO - including, but not limited to, direct and indirect costs that EPA incurs in monitoring and supervising Norfolk Southern's performance of work to determine whether such performance is consistent with the requirements of the UAO, including costs incurred in reviewing deliverables submitted to EPA by Norfolk Southern pursuant to the UAO, as well as costs incurred in overseeing implementation of the UAO (including, but not limited to, payroll costs, contractor costs, travel costs, and laboratory costs).**

Notably, once approved, or approved with modifications, the Removal Work Plan and the Sampling and Analysis Plan (and any subsequent modifications) are incorporated into and become fully enforceable under the UAO. If Norfolk Southern fails to complete any actions required by the UAO, a federal district court may (1) assess daily penalties, (2) require Norfolk Southern to pay up to three times what it cost EPA to do the cleanup work (also known as treble damages), and/or (3) issue a judicial order requiring Norfolk Southern to do the remaining cleanup work.

26. Soil testing results from waste headed to Indiana found dioxin levels hundreds of times greater than the exposure threshold EPA scientists determined in 2010 poses cancer risks. While the levels were below the federal clean up standard for landfills, they may not be safe for residential soil.
- a. How, if at all, have the Indiana test results changed EPA's thinking and approach to dioxin testing?

Response: As a result of concerns about dioxin contamination in the waste associated with the derailment, both the State of Indiana and Norfolk Southern collected and analyzed samples of waste. Those analyses showed that the dioxin concentration was well below regulatory limits for untreated disposal in a hazardous waste landfill.

EPA required Norfolk Southern to test directly for dioxins in the soil at residential, commercial, recreational, and agricultural properties in Ohio and Pennsylvania. EPA reviewed the analytical data from that soil sampling and has posted the data on its website. The data indicate that, for the vast majority of properties, the levels of dioxins in the samples are similar to typical background levels. A few sample results were elevated; however, those elevated samples were all taken next to highways and roads or on industrial/commercial properties. In the event that dioxins attributable to the derailment fires are found in the area and pose unacceptable risks to human health and the environment, EPA will direct the immediate cleanup of the area in coordination with Ohio EPA, PA DEP, and other partners.

27. The concern of dioxins is due to the burning of vinyl chloride. Since we've all seen how far the plume travelled after the "controlled release," the dioxin testing should cover all the areas potentially impacted by that plume. However, currently the testing area only goes out two miles downwind.
- a. Will the testing area be expanded, and if so, when?

Response: EPA's soil sampling has focused on agricultural, commercial, recreational, and residential properties in Ohio and Pennsylvania that were most likely to have been impacted. As of April 14, about 146 locations had been sampled. The data received indicate that the levels of semi-volatile organic compounds and dioxins in the samples were similar to typical background levels for the vast majority of properties. A few sample results were elevated; however, those samples were all taken next to highways and roads or commercial/industrial properties.

More sampling for dioxin compounds will occur on and near the derailment site though the full site characterization plan. EPA Region 3, in coordination with PA DEP and PA Department of Agriculture, completed soil sampling of 15 priority farms in Pennsylvania within 2 to 8 miles of the derailment site, as well as an additional 21 residential, commercial, agricultural locations. The sampling was conducted in coordination with the Lawrence and Beaver County extension offices. The preliminary results from this round of sampling do not show impacts from the derailment. In the event that dioxins attributable to the derailment fires are found in the area and pose unacceptable risks to human health and the environment, EPA will direct the immediate cleanup of the area in coordination with Ohio EPA, PA DEP, and other partners.

28. On March 14th, Norfolk Southern announced that they “are committed to working with the community to provide tailored protection for home sellers if their property loses value due to the impact of the derailment,” but the company has not provided any further details or a timeline. Does EPA have the authority under CERCLA to require Norfolk Southern to buy residents out of their homes?
- What role is FEMA playing in the temporary relocation of residents during the track excavation?
 - Could FEMA either require Norfolk Southern to buy residents out of their homes or pay for the buy outs themselves?

Response: EPA issued the UAO using CERCLA’s removal authority, which does not provide for permanent relocations. However, in a remedial action under CERCLA, EPA may select permanent relocation as a remedy in limited cases where it is necessary to protect human health or the environment. The goal of the current removal action in East Palestine is to ensure that the entire site area is cleaned up so that the selection of a long-term remedial action is not necessary.

FEMA is not currently providing direct assistance to individuals in the affected area. On July 3, Ohio Governor Mike DeWine requested a disaster declaration under FEMA’s authorities, after previously requesting and being granted an extension of time to make such a request. EPA defers to FEMA to address its authorities.

29. One of the community’s demands is for medical monitoring and guaranteed health coverage for all impacted residents. Norfolk Southern announced during the hearing on March 9th that they are “...committed to a solution that addresses long-term health risks through the creation of a long-term medical compensation fund,” but the company has not provided any further details or a timeline.
- Does EPA have authority under CERCLA to require Norfolk Southern to pay for medical monitoring and/or health coverage?

Response: EPA is committed to holding Norfolk Southern accountable and to taking all actions that are necessary to protect public health within EPA's authorities. CERCLA authorizes the United States to seek reimbursement for all removal costs, provided that those actions are consistent with the National Contingency Plan (NCP).

30. How does EPA determine that it is acceptable for waste to be sent to a particular facility and what measures the agency is putting in place to protect those communities?

Response: Norfolk Southern is responsible for identifying where to transport waste from the East Palestine site for disposal. Under EPA's UAO, prior to shipping waste, Norfolk Southern must obtain a determination from EPA that the facility is on the list of facilities that EPA has determined to be acceptable to receive cleanup wastes under the Off-Site Rule. The purpose of the Off-Site Rule is to avoid having wastes from CERCLA authorized or funded response actions contribute to present or future environmental problems by directing these wastes to management units determined to be environmentally sound. Under the Off-Site Rule, CERCLA wastes may only be shipped to facilities without relevant unresolved violations and without relevant releases of hazardous substances or pollutants or contaminants.

There are multiple layers of protection put in place to ensure safe disposal of cleanup wastes. Hazardous waste treatment, storage, and disposal facilities undergo a rigorous permitting process to ensure safe management of hazardous waste. They must meet stringent design and operating criteria to ensure waste does not get out into the environment. These facilities are also inspected by the state and EPA for compliance. Hazardous wastes received at these facilities must meet rigorous treatment standards for any underlying hazardous constituents and be disposed of according to the waste specific standards provided by the RCRA regulations. Off-site disposal of cleanup wastes at a permitted hazardous waste management facility ensures that local communities are protected from the short and long-term hazards of chemical spills.

31. Heritage Thermal Services in nearby East Liverpool, Ohio, has received more than 1,000 tons of waste so far – to be burned yet again; residents have been fighting the facility over its emissions for decades. Heritage underwent an investigation and enforcement action from the EPA in 2015 after officials determined the facility had violated the Clean Air Act nearly 200 times between 2010 and 2014. Since then, the facility has recorded air quality violations in eight of the last 12 quarters. Among the chemicals that had been released at dangerous levels was dioxin, and among the issues cited by the EPA was a failure by Heritage to maintain a required minimum temperature (which is necessary if you are to incinerate the dioxin).
- a. Is EPA confident that this facility can handle more dioxin and PFAS waste?

Response: Norfolk Southern is responsible for identifying where to transport waste for disposal. Under EPA's UAO, prior to shipping waste, Norfolk Southern must obtain a determination from EPA that the facility is on the list of facilities that EPA has determined to be acceptable to receive cleanup wastes under the Off-Site Rule. Heritage Thermal Services is on that list. There are multiple layers of protection put in place to ensure safe disposal of cleanup wastes; Norfolk Southern and receiving hazardous

waste facilities are responsible for ensuring compliance with stringent hazardous waste laws. The Heritage facility is subject to a federal consent decree (settlement), which requires the facility to take steps to come into compliance with the Clean Air Act. EPA is closely monitoring the facility's compliance with the decree. In addition, the facility is inspected by federal and state officials for compliance and is required under its permit to monitor its operations and ensure all waste is properly destroyed. That monitoring continues to occur.

32. The Ross Incineration facility in Graton, Ohio, which has received at least 380 tons of waste, has violated its RCRA permit in seven of the last 12 quarters, with significant violations in six of them. It has been the subject of 16 Clean Air Act and RCRA enforcement actions over the last five years, resulting in more than \$100,000 in penalties. At our hearing on March 9, you stated that the hazardous waste facilities had "gone through EPA due diligence and a compliance review."
 - a. What does the process of compliance review entail?
 - b. Are the results of these compliance reviews publicly available?
 - c. Which facilities are currently receiving both liquid and solid waste from the derailment site? Please provide a comprehensive list.
 - d. What kinds of mitigation measures, like fenceline monitoring, is EPA putting in place to protect the communities with these incinerators?

Response: Under EPA's UAO, Norfolk Southern must obtain a prior determination from EPA under the Off-Site Rule that the permitted hazardous waste facility is acceptable to receive cleanup wastes from the Site. EPA confirms Off-Site Rule acceptability determinations primarily by checking that there is an existing EPA acceptability determination on record for the facility.

As of June 20, the following facilities were receiving waste from the Site: Waste Control Specialists – Andrews, TX (soil/solids); Clean Harbors Deer Park – South La Porte, TX (soil/solids); Clean Harbors Deer Trail – Deer Trail, CO (soil/solids); Heritage Thermal Services– East Liverpool, OH (soil/solids); Heritage Environmental Services – North Roachdale, IN (soil/solids); Ross Incineration Services – Grafton, OH (soil/solids); EnviroSafe Services of Ohio – Oregon, Ohio (soil/solids); Vickery Environmental – Vickery, OH (liquid); Texas Molecular Deer Park – Deer Park, TX (liquid).

There are multiple layers of protection put in place to ensure safe disposal of cleanup wastes. Hazardous waste treatment, storage, and disposal facilities undergo a rigorous permitting process to ensure safe management of hazardous waste. These facilities must meet stringent design and operating criteria, and are inspected by the state and EPA for compliance to ensure waste is not released into the environment.

33. In EPA's memo to states on March 17, the agency stated that: "The waste from the [derailment] Site has been subject to more testing and analysis, with more characterization, than many other, similar wastes regularly accepted at facilities nationwide."
- Please explain in detail what testing is being done of the waste before it leaves East Palestine?
 - What have the results been of the testing EPA has done?
 - Are those results publicly available?
 - Is any remediation of the waste done when unsafe levels are detected?

Response: As waste piles are created, sampling of the waste is conducted to characterize and profile the waste for off-site disposal. Sampling for characterization or profiling is a means to determine what contaminants are in the waste, and at what concentrations. The level of contamination determines where the waste can be sent for disposal. In this instance, the waste soils have been tested for free liquids using the paint filter test and sampled for pH, flash point, corrosivity, toxicity, total metals, Toxicity Characteristic Leaching Procedure (TCLP) metals, volatile organic compounds, and semivolatile organic compounds. The waste was also sampled for herbicides/pesticides and dioxins/furans. In addition to Norfolk Southern's analytical data, the disposal facilities receive a sample prior to disposal approval, and facilities conduct their own sampling protocols. Most landfills require that the waste soils be resampled at a routine frequency, such as every 1,000 cubic yards.

EPA has not conducted any of the above referenced waste characterization (sampling) for the East Palestine Site. It is the sole responsibility of Norfolk Southern to properly sample and characterize its waste. Receiving disposal facilities are also responsible for performing analytical analyses to ensure waste received at their facility is in compliance with the terms and limits of their state-issued permit. Sampling and the sampling result acceptance is handled between Norfolk Southern and the receiving disposal facility. EPA receives a copy of all the sampling data for review.

Due to the nature of this derailment, there have been off-site shipments of both hazardous and non-hazardous waste soils. Currently, any treatment (or remediation) occurs at the receiving disposal facility. For example, high concentration vinyl chloride soils are going to a hazardous waste incinerator for off-site treatment.

34. Regarding the waste that is still on site, the community is concerned about the fact that it appears to largely just be sitting out in the open in large piles. Recognizing there are still thousands of tons of waste on site, could EPA tell Norfolk Southern to put the waste in something like large tankers while it awaits removal?
- If that is not feasible, has EPA required Norfolk Southern to explore other options for covering up the waste as it waits for removal, particularly when you're projecting that the clean-up will take three more months?

Response: Excavated solid waste is staged on lined/bermed staging pads. These staging pads are controlled using engineering controls. For example, plastic sheeting is used to cover the waste to limit the amount of rainwater coming in contact with the waste and all puddled water is removed and collected for treatment. Vapor suppressant foam is applied when volatile compounds are detected by the nearby air monitoring stations.

The intent is to not have large soil waste piles on-site for any length of time, and the waste piles at the site have been significantly reduced over the past several months. As of September 4, approximately 104,024 tons of solid waste and 33 million gallons of liquid waste have been shipped off site. This has been accomplished because Norfolk Southern has entered contracts with numerous disposal facilities that are permitted to receive waste from East Palestine and the waste is regularly removed from the site. The addition of more waste facilities taking waste from East Palestine has and will continue to enable Norfolk Southern to greatly increase the volume of waste being shipped off site daily and thereby reducing the amount of waste within the community.

35. On February 20th a metal manufacturing plant exploded in Oakwood Village, Ohio, killing one person and causing 13 others to be hospitalized. According to news reports, the explosion resulted in black smoke and flames in the air, as well molten debris being scattered a football field's length from the explosion site. The community has since raised concerns about potential exposure to lead and other hazardous materials as a result of the explosion.
- Please explain EPA's involvement with this accident and if there is none, please explain why not.
 - Several community groups have hired independent parties to conduct additional soil testing in the Oakwood Village community, will EPA review the findings of these independent tests?

Response: Ohio EPA has been the lead agency for this emergency response as it has the delegated authority for chemical accident prevention regulations in the state. EPA reached out to Ohio EPA in the weeks following the explosion to offer support. EPA also offered support to the local health department. In addition, EPA has engaged with community stakeholders and continues to do so. EPA has not been asked to review the results of the soil testing or to validate the data.

36. In the hearing, we heard concerns from the Pennsylvania witness and delegation that Pennsylvania citizens are not receiving as much attention from the Norfolk Southern clean-up efforts as Ohio residents. Given that Pennsylvania is downwind of the derailment site and citizens are being exposed to the chemicals released in the accident, how is EPA ensuring Pennsylvania residents are treated equally?

Response: EPA is committed to ensuring the health and safety of all affected residents, including communities in Pennsylvania. EPA conducted both stationary and roaming air monitoring in Pennsylvania after the derailment and during the controlled vent and burn. EPA has also required Norfolk Southern to sample the soil at properties in

Pennsylvania. EPA Region 3, which includes Pennsylvania, has been actively supporting EPA Region 5 in the response, and EPA staff have visited affected communities in Pennsylvania on multiple occasions to answer questions and address concerns from residents. EPA has also been publishing newsletters for residents in both Ohio and Pennsylvania.

37. At any time, was EPA's Office of Research and Development modern air quality instrumentation, which we understand is superior in sensitivity, used in the East Palestine area? If not, why not?

***Response:* EPA mobilized its Environmental Response Team (ERT) and Consequence Management Advisory Team (CMAT), and EPA personnel at the Site have coordinated closely with EPA personnel from the Agency's Office of Research and Development. The air monitoring and sampling technologies that have been used at the site are extensive. These technologies have included EPA's Trace Atmospheric Gas Analyzer (TAGA) mobile laboratory, which provided real-time, highly sensitive air monitoring and sampling results, and EPA's Portable High-throughput Integrated Laboratory Identification System (PHILIS).**

38. In six months, will you commit to reporting back to the committee to provide an update on how clean-up efforts are going and provide some lessons-learned on how the agency and stakeholders could have performed better?

***Response:* EPA will continue to provide updates to the Committee.**

Senator Fetterman:

1. The decision was made to vent and burn five cars containing vinyl chloride, which led to the evacuation of an area that included parts of Pennsylvania. Governors Shapiro and DeWine have shared a map of the projected air modeling for the burn, which showed that the vast majority of the toxic air plume would be over Pennsylvania. Was the EPA confident that it fully accounted for the public health risks for communities downwind of the burn?
 - a. Was the EPA fully informed about the decision to burn five cars instead of one in time to account for that decision in the air modeling?

***Response:* EPA did not create the evacuation zone or issue the evacuation order. EPA's role during the controlled burn was to conduct air monitoring from locations outside the evacuation area—including in Pennsylvania—which the Agency did. EPA's monitors did not detect any contaminants of concern above screening levels outside the evacuation area during or after the controlled vent and burn.**

EPA personnel attended a meeting the evening of February 5 where Norfolk Southern stated that it was recommending the controlled vent and burn of one rail car containing vinyl chloride. EPA personnel attended a meeting the morning of February 6 where Norfolk Southern stated that it was recommending the controlled vent and burn of five rail cars containing vinyl chloride. Approximately 40 people were present at the

meeting, including personnel from the Ohio National Guard Civil Support Team (CST), Ohio EPA, the Ohio Emergency Management Agency, the Ohio State Police, the Columbiana County Emergency Management Agency, the East Palestine Fire Department, and Norfolk Southern. During the meeting on February 6, the CST expressed concern about the change in volume of vinyl chloride to be vented and burned. Once Ohio Governor Mike DeWine arrived at the meeting, there was further discussion about the volume of vinyl chloride to be vented and burned, and Pennsylvania Governor Josh Shapiro was added to the conversation via telephone.

Further modeling work (to assist in deciding whether the evacuation area should be enlarged) was done by the CST at that time in coordination with the Federal Emergency Management Agency Interagency Modeling and Atmospheric Assessment Center (IMAAC). Questions about the role of the overnight change in the volume of vinyl chloride to be vented and burned and the CST air modeling which occurred should be directed to CST. At the same time the CST air modeling was being done, EPA was coordinating with the CST and IMAAC so that air monitoring locations outside the evacuation area could be selected by EPA. The CST and IMAAC were able to complete the required air modeling to allow EPA to select appropriate air monitoring locations outside of the evacuation zone prior to the controlled vent and burn operation involving five cars.

2. Please walk through the process for removing the contaminated soil and wastewater from the site from start to finish, including references to the agencies and organizations responsible for each step.

Response: Under EPA's UAO, Norfolk Southern is responsible for removing the contaminated soil and wastewater offsite and transporting it to acceptable waste disposal facilities, with EPA oversight. Norfolk Southern must first identify the waste disposal facility where it wants to ship the waste and obtain a prior determination from EPA that the proposed receiving facility is on the CERCLA Off-Site Rule list of acceptable facilities. If the facility is not on that list, Norfolk Southern is not permitted to ship the waste to that facility. If Norfolk Southern is shipping waste to an out-of-state disposal facility, it must also provide written notice to the appropriate state environmental official and to EPA's OSCs if the shipments exceed ten cubic yards.

The process for removing and transporting the waste begins by loading, contaminated soil onto specially prepared trucks lined with polyethylene, which enter the site and proceed along the temporary road to the waste piles to be loaded. Once the truck is parked in the correct position to be loaded, the tarp is removed from the waste pile and an excavator loads the truck with the soil. After the truck containing contaminated soil is loaded, it proceeds to a scale to be weighed. Liquid loads are not required to be weighed; however, the driver must provide an estimated volume before leaving the site. A manifest is then signed by Norfolk Southern, its contractor, or a designated representative. The manifest is a required document under RCRA that identifies the generator, transporter, and receiver of the hazardous waste. The truck then proceeds to a scaffolding area where workers seal the liner from the top and a tarp is placed over

the load, to prevent release during transport. All waste transportation trucks must have their tires washed prior to leaving the Site, with additional truck surfaces washed as necessary. Final disposal of waste occurs at a permitted hazardous waste incinerator, landfill, or deep underground injection well that is selected by Norfolk Southern and determined by EPA to be acceptable to receive CERCLA waste pursuant to EPA's Off-Site Rule.

Ranking Member Capito:

1. Do you stand by your previous statements that the response agencies did not have adequate resources to establish a comprehensive private well testing strategy until the issuance of the EPA's February 21, 2023 Unilateral Administrative Order for Removal Actions under the Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) (hereinafter Administrative Order)?

Response: The private well testing is being done by Norfolk Southern and state and local officials. EPA would refer questions regarding private well testing to those entities.

2. Why was the Administrative Order not issued sooner?

Response: Within hours after the derailment, EPA had personnel on site, and in the weeks that followed, we were actively supporting Ohio EPA, which had taken the lead on the response. When the State is leading a cleanup, EPA takes a supporting role. EPA issued a UAO to ensure that Norfolk Southern would be held accountable during the cleanup phase. Through the UAO, EPA is able to make sure that: 1) the cleanup will be prompt and thorough, and 2) Norfolk Southern will pay for the cleanup of environmental harms arising out of the derailment/spill.

3. Given residents' repeated concerns over the pace of testing, why were residents only given the chance to have their homes or private wells tested on request?
 - a. Was a proactive approach ever considered to help restore the public's confidence in the response efforts?

Response: Residents must request the private well testing because third parties cannot enter private property and test their well water without permission. The private well testing is being done by Norfolk Southern and state and local officials, and EPA would refer questions regarding private well testing to those entities. The responding agencies took a proactive approach by recommending that those who receive drinking water from private wells schedule an appointment for well water testing, and by providing residents with information on how to schedule their private well water for testing.

4. Please indicate exactly which hazardous substances, as defined under CERCLA, that EPA staff or contractors were instructed to look out for when conducting indoor home cleaning.

Response: Early in the response, Norfolk Southern provided some home cleanings, which were not done under EPA's oversight. Going forward, Norfolk Southern, with

EPA oversight, will offer indoor home and place of business cleaning to anyone within the village of East Palestine, Ohio limits or within the 1-mile by 2-mile Ohio-Pennsylvania evacuation area. When cleaning is conducted, sampling is not recommended.

5. Did the EPA conduct any follow-up air monitoring in homes that had already received previous cleaning services?

Response: The EPA and Norfolk Southern contractor teams conducted home monitoring by request. Monitoring was not tied to home cleaning services that Norfolk Southern provided early in the response. This original home cleaning by Norfolk Southern was not done under EPA's oversight. Going forward, Norfolk Southern, with EPA oversight, will offer indoor home and place of business cleaning to anyone within the village of East Palestine, Ohio limits or within the 1-mile by 2-mile Ohio-Pennsylvania evacuation area.

6. If, as your agency repeatedly stated, there was no presence of hazardous substances inside of residents' homes, what authority under CERCLA was utilized to pay for these cleanings?

Response: CERCLA, also known as Superfund, authorizes the President to respond to releases or threatened releases of hazardous substances into the environment. CERCLA gives the President authority to clean up these sites under requirements generically referred to as "removal" or "remedial" provisions. Under CERCLA § 101(23), "removal" is defined to include a broad range of actions.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) outlines CERCLA's implementing regulations. Agencies must follow the procedures and standards detailed in the NCP when responding at these sites. The NCP at § 300.415(b) authorizes the lead agency to initiate appropriate removal action(s) in the event of a hazardous substance release. Decisions to take an action are based on: threats to human or animal populations; contamination of drinking water supplies or sensitive ecosystems; high levels of hazardous substances in soils; weather conditions that may cause migration or release of hazardous substances; threat of fire or explosion; or other significant factors affecting public health or the environment.

The decision to take action is documented by EPA in an Action Memorandum. In the February 21, 2023, Action Memorandum for the site, EPA determined that the actions taken to clean up the site should include "[c]lean up dust and debris in interior and exterior of buildings resulting from the train derailment fires upon request."

7. The EPA's website announcing the issuance of the Administrative Order states: "EPA's order marks the transition of the multi-agency response from its "emergency phase" to a longer-term **remediation** phase." (Emphasis added.) Is it true that the status of the cleanup effort when this post was published on the EPA's website was undertaken in accordance with the criteria for remedial cleanup standards as established by CERCLA section 121?

- a. If yes, please provide what mechanisms under CERCLA the EPA utilized to formally transition to a remedial phase.
- b. Please explain why the EPA's website used the term "remediation" and what the Agency intended the word to mean considering the Administrative Order only applies to removal actions.
- c. Does your agency acknowledge that failing to appropriately distinguish between removal and remedial phases of cleanup only further foments public confusion over the status and associated requirements of the cleanup efforts?

Response: At this time, there has been no remedial action taken at the site. When EPA issued the UAO, it marked a transition from the emergency phase to the EPA-led cleanup phase. On its website, EPA used the word remediation according to its plain language meaning – "the process of removing dangerous or poisonous substances from the environment, or limiting the effect that they have on it" – not to imply a transition to a CERCLA remedial cleanup.

8. Does the EPA intend to undergo remedial actions at the site?
 - a. If yes, what mechanism under CERCLA will the EPA utilize given the Administrative Order only applies to removal actions?

Response: At this time, EPA is working to implement a time-critical removal response at the Site with the goal of ensuring that the entire site is cleaned up so that the selection of a long-term remedial action is not necessary. When the removal work is completed, EPA will evaluate whether contaminants remain on site, and if so, select the best process to complete cleanup of those contaminants. Options evaluated at that time could include additional CERCLA response actions or a cleanup conducted pursuant to state law.

9. Please indicate what authority under a CERCLA **removal** action permits the EPA to compel responsible parties to appear in public meetings.

Response: Public participation in the CERCLA cleanup process is a fundamental part of both removal and remedial actions, reflected in the statute, as well as the NCP. CERCLA sections 104 and 106 provide EPA with broad authority to take actions necessary to protect the public health or welfare or the environment. For example, section 106 provides EPA with broad order authority to "take other action under this section including, but not limited to, issuing such orders as may be necessary to protect public health and welfare and the environment." This may include, where appropriate, compelling responsible parties' attendance at public meetings.

10. Why did the EPA wait more than a month to begin testing for dioxins after you repeatedly dismissed residents' concerns over the potential risks posed by dioxin contamination?

Response: EPA monitored the air for “indicator chemicals” (such as chlorobenzenes and chlorophenols), the presence of which might suggest the potential for elevated levels of dioxins. That monitoring suggested a low probability for release of dioxin as a result of the derailment. EPA also heard directly from East Palestine families who were concerned about dioxins. To address concerns from residents, EPA required Norfolk Southern to sample directly for dioxins in the soil. EPA reviewed the analytical data from the soil sampling related to the controlled burn. The data indicate that, for the vast majority of properties, levels of dioxins in the samples are similar to typical background levels. A few sample results were elevated; however, those samples were all taken next to highways and roads or commercial/industrial properties.

More sampling for dioxin compounds will occur on and near the derailment site though the approved full site characterization plan. In the event that dioxins attributable to the derailment fires are found in the area and pose unacceptable risks to human health and the environment, EPA will direct the immediate cleanup of the area in coordination with Ohio EPA, PA DEP, and other partners.

11. Did any organizations involved in the initial emergency response suggest testing for dioxins before and/or after the controlled burn?

Response: See response to Question 10 above; EPA tested for indicator chemicals during and after the controlled burn.

12. What successes and failures do you identify in the EPA’s risk communication since the incident?
 - a. Please elaborate what actions the Agency will take to prevent further risk communication failures.

Response: EPA’s number one priority is ensuring the community’s health and safety in emergency situations, and an important part of doing so requires equipping the public with critical health risk information, so that people can make decisions to best protect their health and the health of their families. There are many scientific experts, including public health specialists, toxicologists, geologists, chemists, and other experts from a variety of agencies that are working diligently in response to the East Palestine incident and sharing their work transparently through community engagement, regular updates via EPA’s website, community newsletters, and daily media updates. Additionally, EPA continues to assess and review best practices of communication to reflect lessons learned and ensure that the Agency’s approach to data transparency reflects the needs of impacted communities.

EPA has implemented a multi-pronged approach to communicating with the community, including in-person discussions at the Welcome Center; holding public information sessions (including three sessions focused on health issues); publishing a newsletter providing regular, detailed updates to the community on the cleanup progress; and maintaining a website showing our validated data, sampling plans, fact sheets, and informational videos. EPA’s risk communication efforts will focus on

ensuring prompt dissemination of accurate information in a manner that addresses community concerns.

13. Was the Interagency Modeling and Atmospheric Assessment Center involved in plume modeling efforts prior to the controlled burn decision?

Response: EPA coordinated with IMAAC to provide plume modeling throughout the duration of the fire in order to select locations for air monitoring. IMAAC and the Ohio National Guard Civil Support Team, in conjunction with experts from the Defense Department, provided updated modeling for the anticipated plume from the controlled vent and burn operation.

14. Did your agency follow the guidance provided by the National Response Team's Incident Command System / Unified Command (ICS/UC) Technical Assistance Document for a National Contingency Plan Emergency response?

Response: Before EPA issued its UAO and assumed the lead in overseeing the cleanup of the site, there was an informal Unified Command in place. EPA established a formal Unified Command structure.

15. Please list all entities that were involved in the initial shared incident command structure prior to the establishment of the Unified Command Structure.

Response: The responding agencies involved in the initial incident command included the Village of East Palestine, Columbiana County Emergency Management Agency, CCHD, Beaver County PA Emergency Management Agency, Ohio EPA, Ohio Department of Health, Ohio National Guard, PA DEP, Pennsylvania Department of Health, U.S. EPA, ATSDR, Federal Railroad Administration, National Transportation Safety Board, and various mutual aid fire Haz-Mat teams.

16. Please list all individuals assigned as an Incident Commander throughout the cleanup efforts.

Response: The East Palestine Fire Chief and, later, U.S. EPA's OSC. The Unified Command includes the Village of East Palestine Fire Department, Columbiana County EMA, Ohio EPA, U.S. EPA, and Norfolk Southern.

17. Is it accurate that Norfolk Southern was the only entity required to conduct outreach and negotiate waste disposal agreements prior to the issuance of the Administrative Order?

- a. If yes, please explain how a single entity making decisions is an appropriate application of ICS/UC guidance.

Response: Prior to the issuance of the UAO, Ohio EPA was overseeing Norfolk Southern's disposal of waste from the East Palestine Site. The Agency is not in a position to answer what outreach/negotiations took place before issuance of the UAO.

18. Prior to the moratorium on waste disposal, did the EPA have any knowledge whatsoever of the facility locations Norfolk Southern was contracting with for waste disposal?

Response: During the initial phases of the emergency response, Ohio EPA was the lead agency in conjunction with the Fire Department and Norfolk Southern. During this timeframe, EPA was aware which facilities were receiving waste from the derailment. However, EPA was not a part of the decision making for waste disposal. Since EPA started overseeing the cleanup of the site, EPA has had full knowledge of Norfolk Southern's disposal contracts. Further, under EPA's UAO, Norfolk Southern must obtain a prior determination from EPA under the Off-Site Rule that the permitted hazardous waste facility is acceptable to receive cleanup wastes from the Site and must provide notice to EPA's OSCs before shipping more than ten cubic yards of waste to out-of-state disposal facilities.

19. According to your public statements, Norfolk Southern supplied the Ohio EPA with a list of selected and utilized disposal sites. Did the Ohio EPA share with your agency any of the documents exchanged between Norfolk Southern and the Ohio EPA regarding waste disposal facilities prior to the temporary moratorium?

- a. If yes, please provide any documents provided to your agency pertaining to waste disposal prior to the temporary moratorium as an attachment to your responses.

Response: EPA did not receive any documentation from Ohio EPA regarding contractual agreements between Norfolk Southern and any disposal facilities when Ohio EPA was overseeing Norfolk Southern's disposal of waste.

20. Please list any other public or private entity involved with site selection, transport, and disposal of hazardous waste from the derailment site prior to the temporary moratorium being issued.

Response: Under EPA's UAO, prior to shipping waste, Norfolk Southern must obtain a determination from EPA that the facility is on the list of facilities that EPA has determined to be acceptable to receive cleanup wastes under the Off-Site Rule. Under the Off-Site Rule, CERCLA wastes may only be shipped to facilities without relevant unresolved violations and without relevant releases of hazardous substances. Before EPA assumed the lead in overseeing Norfolk Southern's cleanup of the site, Ohio EPA was overseeing the cleanup process, including off site waste shipments.

21. Which parties involved in response actions had interactions with the facility owners in Michigan, Texas, and Indiana prior to the temporary moratorium being put in place?

Response: Norfolk Southern has sole responsibility for all interactions with waste disposal facilities.

22. Was any waste destined for Michigan, Texas, or Indiana halted prior to the issuance of the Administrative Order?

Response: Waste was not shipped to Indiana before the issuance of the UAO. No waste shipments to Texas or Michigan were halted prior to the issuance of the UAO.

23. Please explain how authority is distributed between state and federal response agencies during the initial **removal** phase of an NCP emergency response such as in East Palestine.

Response: During the initial phases of an emergency response, state and/or local response officials are typically the first responders. As the first responders, state and local officials are expected to initiate public safety measures that are necessary to protect public health and welfare that are consistent with the containment and cleanup requirements in the NCP and are responsible for directing evacuations pursuant to existing state and local procedures. EPA's OSCs typically coordinate with the state and local responders to determine the extent of federal involvement necessary and deploy federal resources as needed.

24. Considering Governor DeWine's explicit disapproval of the temporary pause on waste disposal, prior to the temporary moratorium did the Ohio EPA formally express to your agency its disapproval of your decision to halt out-of-state waste transport?

Response: EPA did not halt out-of-state waste shipments. EPA temporarily paused shipments for about two days, from February 24 to February 26, so that EPA could conduct its due diligence, including ensuring that the receiving facilities were on the list of acceptable facilities under the CERCLA Off-Site Rule, and provide notifications to appropriate state officials. Since that time, waste has been steadily moving off-site for treatment and disposal, and continues to be shipped off-site.

25. Did the federal EPA make any specific finding that the existing Ohio state statutes applicable to the management, transport, and disposal of East Palestine hazardous waste were insufficient to protect public health?

- a. If yes, please provide any documents pertaining to this finding as an attachment to your responses.

Response: No.

26. Did the State of Ohio utilize CERCLA section 128(b)(B)(i) to request the EPA to issue the Administrative Order that would require out-of-state regulators to approve of waste disposal facilities?

Response: The State of Ohio did not make a request to EPA under CERCLA section 128(b)(B)(i).

27. Did the EPA make any determination, as required under CERCLA section 128(b)(B), to supersede the State of Ohio's involvement in the cleanup efforts?

- a. If yes, please provide any documents pertaining to this determination as an attachment to your responses.

Response: The State of Ohio did not make a request under CERCLA section 128(b)(B)(i). EPA issued the UAO pursuant to its authority under section 106 of CERCLA.

28. After the temporary moratorium, is it true that the EPA retroactively sent staff to facilities in Michigan and Texas to verify that all waste was disposed of in full compliance with these facilities' permitted obligations?

- a. If yes, what were the results of these retroactive audits? Why were they deemed necessary?

- b. Please provide any documents to this effect as an attachment to your responses.

Response: EPA Region 6 sent staff to conduct RCRA inspections at three waste disposal facilities in Texas: Texas Molecular (Deer Park, Texas), Clean Harbors (Deer Park, Texas), and Waste Control Specialists (Andrews, Texas), as these facilities were receiving waste from East Palestine. These inspections were done to ensure that these facilities were disposing of the East Palestine waste safely and in compliance with their RCRA permits. The inspections found that all three facilities received the waste safely and disposed of it in accordance with their permits. EPA's inspection reports for these facilities are publicly available on EPA's website.¹

EPA Region 5 did not send any staff to waste disposal facilities in Michigan in connection with the East Palestine train derailment. EPA Region 5 sent staff to the Heritage Environmental Services in Roachdale, Indiana, as waste from East Palestine was arriving at the facility. The purpose of these visits was to observe the transport of the waste and to perform manifest reviews of the type and amount of waste arriving at the facility. These visits were not compliance inspections or audits.

29. Based on the criteria established in the Administrative Order Point 46, what specific violations have prevented the US Ecology facility in Michigan from accepting any further waste from East Palestine?

- a. If this facility did not meet the criteria established in Point 46, does the EPA believe that the US Ecology facility is unfit to accept hazardous wastes from other sources that are more toxic and hazardous than the waste from East Palestine?

Response: The U.S. Ecology deep well injection facility in Romulus, Michigan is not on EPA's Off-Site Rule list of acceptable facilities. The facility has not requested to be on EPA's Off-Site Rule list. Because it is not on the list, it cannot receive waste from East Palestine. This does not mean the facility was unable to properly dispose of the East

¹ <https://www.epa.gov/tx/enforcement-compliance-assurance-documents-texas>

Palestine waste before EPA began overseeing the cleanup of the site, or that the facility is unable to properly dispose of wastes from other non-CERCLA sites.

30. Do the requirements for facility eligibility established by the Administrative Order point 46 go beyond what is required under the Resource Conservation and Recovery Act (RCRA)?

- a. If so, please explain the EPA's justification and authority for prescribing more stringent criteria than existing statutory permitting requirements.

Response: Under Paragraph 46 of the EPA's UAO, a facility is eligible to receive waste if it is on EPA's Off-Site Rule list of acceptable facilities. The Off-Site Rule codifies CERCLA § 121(d)(3) and previous agency policy by describing the criteria that off-site waste management facilities must meet when taking waste from CERCLA sites.

31. Please provide a justification as to how the delays and temporary redirection of waste from permitted facilities – as well as additional inspections beyond those required under RCRA – facilitated continuing cleanups “at rapid pace” as you publicly claimed when announcing the change in receiving facilities.

- a. Please provide the exact amount of soil and liquid disposal that had occurred prior to the temporary moratorium.
- b. Based on the volume of waste collected at the derailment site, please estimate the approximate date at which all waste would have been disposed of had the EPA not imposed a temporary moratorium.
- c. What is the EPA's current estimate for complete disposal of all waste from the derailment site?

Response: EPA has been overseeing Norfolk Southern's waste disposal activity from the Site since February 24, 2023, when EPA issued a directive requiring Norfolk Southern to perform cleanup activities at the derailment location. Subsequently, after assuming the lead for oversight activities from Ohio EPA, EPA reviewed early waste shipments from the Site to address community concerns and to verify that disposal locations were acceptable under EPA's Off-Site Rule. CERCLA and the Off-Site Rule govern the off-site transfer of any CERCLA wastes from response actions to ensure such wastes do not contribute to present or future environmental problems. EPA routinely directs responsible parties to ship cleanup waste off-site to an acceptable permitted hazardous waste disposal facility for safe disposal. Off-site disposal of cleanup wastes at a permitted hazardous waste management facility ensures that local communities, like East Palestine, are protected from the short and long-term hazards of chemical spills.

At the time EPA began overseeing the disposal of waste off-site, on February 24, about 330 tons of solid waste and 1.68 million gallons of liquid waste had been shipped off-site for disposal. As of September 4, approximately 104,024 tons of solid waste and 33

million gallons of liquid waste have been shipped off site. EPA is optimistic that final disposal will be completed this fall, depending on site conditions and various related circumstances, such as assessment work and weather.

32. What testing is being done on the waste before it leaves East Palestine?

- a. Is there any publicly available testing data on East Palestine soil other than what was provided by the State of Indiana?

Response: As waste piles are created, sampling of the waste is conducted to characterize and profile the waste for off-site disposal. Sampling for characterization or profiling is a means to determine what contaminants are in the waste and at what concentrations. The level of contamination determines where the waste can be sent for disposal. In this instance, the waste soils have been tested for free liquids using the paint filter test and sampled for pH, flash point, corrosivity, toxicity, total metals, TCLP metals, volatile organic compounds, and semivolatile organic compounds. In addition, the waste was sampled for herbicides/pesticides and dioxins/furans. In addition to Norfolk Southern's analytical data, the disposal facilities received a sample prior to disposal approval and conduct their own sampling protocols. Most landfills require the waste soils to be resampled at a routine frequency, such as every 1000 cubic yards.

EPA collected soil and sediment samples at the derailment site for volatile organic compounds, semivolatile organic compounds, gasoline range organic compounds, diesel range organic compounds, and oil range organic compounds. Those results are publicly available on EPA's website: <https://www.epa.gov/east-palestine-oh-train-derailment/soil-and-sediment-sampling-data>.

33. Please elaborate on the specific chemicals that are being tested for in East Palestine excavated soil prior to approval for transport and disposal.

Response: In addition to the response above, the waste soils have been tested for free liquids using the paint filter test and sampled for pH, flash point, corrosivity, toxicity, total metals, TCLP metals, volatile organic compounds, and semivolatile organic compounds. The waste was also sampled for herbicides/pesticides and dioxins/furans.

34. Based upon the EPA's daily updates, March 2, 2023 was the first time that dioxin testing was mentioned. The first temporary moratorium on waste disposal was issued roughly two weeks prior. Is it also true that the EPA again temporarily restricted the transport of waste from the derailment site in order to conduct dioxin testing?

- a. Has the EPA identified the presence of levels of dioxins sufficient to justify delaying transport and disposal of waste from the derailment site?

Response: EPA was not involved in the temporary suspension of waste shipments related to additional dioxin sampling, and EPA has not conducted any of its own dioxin sampling of waste at the Site. The UAO requires Norfolk Southern to properly

characterize the waste stream. The waste disposal facility has the responsibility to ensure the waste is compliant with its permit.

35. How does the EPA distinguish between removal and remedial actions under CERCLA?

Response: CERCLA section 104 provides broad authority for a federal program to respond to releases of hazardous substances and pollutants or contaminants. There are two major types of response actions, removal actions and remedial actions. EPA follows the definitions provided by CERCLA section 101(23)-(24).

36. Is it true that in emergency removal actions, such as in East Palestine, response agencies are awarded more flexibility and latitude to expeditiously **remove** the threat to public health and the environment?

Response: EPA conducts emergency responses in accordance with CERCLA section 104 and the NCP. Under CERCLA and the NCP, on-site managed wastes are subject to Applicable or Relevant and Appropriate Requirements (ARARs), but are not subject to the non-substantive requirements, such as permitting.² Waste managed off-site must comply with all substantive *and* non-substantive requirements of the applicable regulations.

37. If the EPA did not find any cause for concern after auditing the initial disposal of waste prior to the first temporary moratorium and subsequently has not identified the presence of dioxins in any on-site sampling efforts, please explain why it is an appropriate use of CERCLA authority to delay the pace of a **removal** action if there is no apparent risk to public health?

Response: EPA has not delayed this removal action. To the contrary, EPA has used one of its most powerful enforcement tools to hold Norfolk Southern accountable and to ensure that the cleanup and transportation of waste out of East Palestine occurs safely and quickly.

38. Do you acknowledge that these delays in waste transport have contributed to the ongoing exposure to the odor of chemicals from contaminated soils for East Palestine residents?

Response: EPA has not delayed the transportation of waste off-site. To the contrary, EPA has used all resources available and used one of its most powerful enforcement tools to ensure that Norfolk Southern cleans up the hazardous materials spilled as quickly and safely as possible. Tremendous progress has been made. Much of the excavation activity has been completed and EPA is optimistic that final disposal of solid waste could be finished this fall, depending on various circumstances (assessment work, weather, etc.).

² <https://www.epa.gov/superfund/applicable-or-relevant-and-appropriate-requirements-arars>

39. Why were other organizations such as the Ohio EPA and Ohio River Valley Sanitation Commission (ORSANCO) releasing data provided by your agency faster than the EPA Region 5 was releasing that data publicly?

Response: During the emergency phase of the response, EPA was posting and updating air monitoring data on a regular basis and sampling data as soon as preliminary data were received. As we have moved into the cleanup phase, EPA continues to post preliminary data and re-post those results after quality control checks are completed.

40. Why did the federal EPA issue data at such a slower pace when compared to other parties involved in the response efforts?

Response: In addition to the response above, during the emergency phase of the response, EPA was posting and updating air monitoring data on a regular basis and sampling data as soon as preliminary data were received. As we have moved into the cleanup phase, EPA continues to post preliminary data and repost those results after quality control checks are completed.

41. What steps will your agency take to improve data transparency and facilitate understanding of said data for the public for future emergency response actions?

Response: EPA's number one priority is ensuring the community's health and safety in emergency situations, and an important part of doing so requires equipping the public with critical health risk information, so that people can make decisions to best protect their health and the health of their families. There are many scientific experts, including public health specialists, toxicologists, geologists, chemists, and other experts from a variety of agencies that are working diligently in response to the East Palestine incident and sharing their work transparently through community engagement, regular updates via EPA's website, community newsletters, and daily media updates. Additionally, EPA continues to assess and review best practices of communication to reflect lessons learned and ensure that the Agency's approach to data transparency reflects the needs of impacted communities.

42. Has your agency conducted any monitoring of PFAS contamination stemming from the reported use of firefighting foams used to extinguish the derailment fire?

- a. If yes, please share the results of these efforts.
- a. If yes, why are these results not publicly available?
- b. If no, please explain why you are not testing for PFAS contamination.

Response: Since the derailment, EPA has been conducting air monitoring and sampling. Any potential PFAS contamination from firefighting foam would not be found in the air. Ohio EPA, in partnership with local health agencies and local public water systems, has been testing the water, and would be in the best position to answer these questions.

Senator CARPER. Thank you so much and convey our thanks to your colleagues at EPA for being there right away onsite and staying there through even today. Keep it up.

Everything I do, I know I can do better. I think that is true of all of us. I would just say, let's find ways to do even better going forward.

Anne Vogel, why do not you just start off your testimony with answering a question. Explain for folks who might be watching this, how do we have EPA here, Region III EPA, and we have Ohio EPA. How is that? Just take a minute and explain that. It will not count against your time.

**STATEMENT OF ANNE VOGEL, DIRECTOR, OHIO
ENVIRONMENTAL PROTECTION AGENCY**

Ms. VOGEL. Thank you, Chairman. Ohio EPA is the Ohio agency dedicated to protecting human health and the environment, similar to the work of the U.S. EPA, which covers the whole Nation.

Senator CARPER. Thank you. Go right ahead, we are delighted that you are here. Please proceed.

Ms. VOGEL. Good morning, Chairman Carper, Ranking Member Capito, members of the committee. My name is Anne Vogel, Director of the Ohio Environmental Protection Agency.

On behalf of Governor DeWine, Lieutenant Governor Husted, and the talented team that I am privileged to represent at the Ohio Environmental Protection Agency, I thank you for allowing me to share our ongoing efforts to protect human health and the environment in East Palestine, a community that I have called home for the past month.

Governor DeWine has been to the village regularly to reassure the community that, while this is Norfolk Southern's train, their wreck, and their mess, the entire apparatus of State government has been mobilized to assist as East Palestine begins to recover from this traumatic experience. More than a dozen cabinet officials have spent time in East Palestine assessing short-term and long-term needs, answering questions, and standing up support operations, such as the free health clinic in town.

Ohio EPA has a dedicated team of experts, the emergency response team, with a combined 150 years of experience in environmental emergency management. It responded to the derailment within 1 hour of being notified by the railroad. By 12:25 a.m. on February 4th, Ohio EPA was on the scene and immediately began the work of containing the release of chemicals into the nearby Sulphur Run. We have worked around the clock since that day to oversee removal of the gross contamination from the creeks in the immediate derailment area.

Ohio EPA's oversight also includes ensuring the safety of residents served by the municipal water system in East Palestine. In the days immediately after the derailment and now continuing on a weekly basis, the municipal wells are tested for a broad array of chemicals, and all lab reports have indicated that the public water system is safe. There have been no detections of contamination related to the derailment.

I am happy to answer any questions you have about Ohio EPA's response, but what I want to make sure that each of you here

know, along with the village of Palestine, is that the commitment to stay in East Palestine as long as it takes are not empty words. We live there. The work of Ohio EPA to restore the environment in East Palestine is just beginning. The emergency phase will continue as long as obvious known contamination remains. For example, we have a large presence on the ground right now as contaminated soil under the tracks is excavated.

The investigation phase is also underway. Our oversight of Norfolk Southern's work plans, along with our Federal partners for things like soil testing for track removal and replacement, for water sampling, will make sure Norfolk Southern is taking all the right steps to remediate and protect East Palestine from potential long-term hazards.

We have installed monitoring wells at the site of the derailment to test for potential contamination to groundwater now and in the future. We have installed sentinel wells for long-term sampling of groundwater. This is part of an early detection system that will tell us if contamination is approaching the municipal well field. We will test municipal water systems on a weekly basis, and we will do that using our own labs.

We will continue to be 100 percent transparent, showing complete lab results immediately. We will attend open houses and town halls and be present in the community, answering questions and refuting misinformation with facts. The data that we collect from each sample, each test, each observation informs the next step that we will take along the path to long-term full remediation.

You and your constituents have many of the same questions that I hear from residents of East Palestine every day. How long will we test the water? How long until the fish come back? Can I play in the yard and eat out of my garden? How or when will we know if the damage to our village is worse than we thought, or even irreparable?

These are legitimate questions, and I am committed to finding answers. I can promise East Palestine that Governor DeWine, his administration, and the whole team at the Ohio EPA will not stop until the signs definitively show that the residents of East Palestine are safe in their community.

Again, I thank you for the opportunity to be here today. I look forward to answering your questions.

[The prepared statement of Ms. Vogel follows:]

WRITTEN TESTIMONY OF

**Anne Vogel
Director, Ohio Environmental Protection Agency
State of Ohio, Columbus, Ohio**

BEFORE THE U.S. SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

Hearing: Protecting Public Health and Environment in the Wake of the Norfolk Southern Train
Derailment and Chemical Release and East Palestine

March 9, 2023
Washington, D.C.

Good morning, Chairman Carper, Ranking Member Capito, and members of the committee. Thank you for the opportunity to appear before you today to share the state of Ohio's work to restore East Palestine, a community that I have called home for the past month.

My name is Anne Vogel, Director of the Ohio Environmental Protection Agency. On behalf of Governor DeWine, Lieutenant Governor Husted, and the tremendous Team that I am privileged to represent at the Ohio Environmental Protection Agency, I thank you for allowing me to share with you our ongoing efforts to protect human health and the environment in East Palestine.

Governor DeWine has been to the village regularly to reassure the community that - while this is Norfolk Southern's train, their wreck, and their mess - the entire apparatus of state government has been mobilized to assist as East Palestine begins to recover from this traumatic experience. Cabinet officials from Health, Mental Health, Development, Agriculture, Natural Resources, National Guard, Public Safety, Highway Patrol, State Fire Marshal, and Emergency Management have spent time in East Palestine, assessing short- and long-term needs, answering questions, and standing up support operations such as the free health clinic in town.

Ohio EPA has a dedicated team of experts - the Emergency Response team - with a combined 150 years of experience in environmental emergency management - that responded to the derailment within one hour of being notified by the railroad. By 12:25am on February 4, Ohio EPA was on the scene and immediately began the work of containing the release of chemicals into the nearby Sulphur Run.

We have worked around the clock since that day to oversee the work of Norfolk Southern's contractors to remove the gross contamination from the creeks in the immediate derailment area. Contaminated liquids and soil are being carefully removed from the site daily.

Ohio EPA's oversight also includes ensuring the safety of residents served by the municipal water system in East Palestine. In the days immediately after the derailment, and now continuing weekly, the municipal wells are tested for a wide array of volatile organic chemicals and semi-volatile organic chemicals and all lab reports have indicated that the public water system is safe – there are no signs of contamination.

I am happy to answer any questions you have about the Ohio EPA's response to the derailment. However, what I want to make sure that each of you AND the Village of East Palestine hears today is that the commitment to "stay in East Palestine" as long as it takes – are not empty words from bureaucrats and politicians.

The work of the Ohio EPA to restore the safe environment of East Palestine is just beginning.

- The emergency phase will continue as long as obvious, known contamination remains – for example we will have a large presence ensuring that contaminated soil under the tracks is removed.
- The investigation phase is also well under way: our oversight of Norfolk Southern's work plans – for soil testing, for track removal and replacement, for water sampling – will make sure that Norfolk Southern is taking all the right steps to remediate and protect East Palestine from potential long-term hazards.
- We have installed monitoring wells at the site of the derailment to test for potential contamination to ground water – now and in the future.
- We have installed sentinel wells for long-term sampling of ground water – this is an early detection system that will tell us if contamination is approaching the municipal wellfield.
- We will test the municipal water system on a weekly basis – using our own labs.
- We will continue to be 100 percent transparent, sharing full lab results immediately.
- We will attend open houses, town halls and be present in the community answering important questions and rebutting misinformation with facts.

The data that we collect from each sample, each test, each observation informs the next step we take along the path to long-term, full remediation.

You and your constituents probably have many of the same questions that I hear from residents every day. How long will we test the water? How long until the fish come back? Can I play in the yard and eat out of my garden? How or when will we know if the damage to our village is worse than we thought, or even irreparable?

These are legitimate questions, and we are committed to working with residents to find answers. But I am personally invested in helping this community heal, and I can promise that Governor DeWine, his administration, and the whole team at Ohio EPA will not stop until the science definitively shows that the residents of East Palestine are safe in their beautiful community.

Again, thank you for the opportunity to testify today. I look forward to answering your questions.



Mike DeWine, Governor
Jon Husted, Lt. Governor
Anne M. Vogel, Director

Senate Committee on Environment and Public Works
Hearing Entitled, *"Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train Derailment and Chemical Release in East Palestine, Ohio"*
March 9, 2023
Questions for the Record for Anne Vogel

All responses from Anne Vogel to the questions posed by Chairman Carper and Ranking Member Capito are presented in bold.

Chairman Carper:

1. When did Ohio EPA first arrive on the scene of the train derailment in East Palestine?

Ohio EPA's Emergency Response team arrived on scene at 12:25 a.m., February 4, 2023, to investigate the extent of environmental impacts, and coordinate response actions with the fire department, hazmat teams, and other response partners.

2. Once Ohio EPA was on the scene in East Palestine, what was the state of the Unified Command structure?

In any emergency incident, the first hours require responders to make very quick assessments of imminent issues and gather information to inform their superiors so that response actions can be prioritized and implemented.

Communications, logistics and response tactics are often developed very quickly to gain control over a crisis. In the early hours of this incident, the response team functioned under a traditional Incident Command structure. In Ohio, the Incident Commander is the Fire Chief of the local jurisdiction under Ohio Law. In this structure, all responders report and provide input to the Incident Commander and follow their orders for actions designed to redress the emergency.

As emergency incidents mature, the Incident Command structure can transition to a Unified Command structure. This is a normal transition for large scale incidents such as this one. A clear demarcation of this transition occurred when US EPA issued its 106 CERCLA Order and memorialized the Unified Command structure that we operate today at East Palestine.

Responders who reported to the incident on the night it happened, included East Palestine Police and Fire, Columbiana County Emergency Management Agency, Columbiana County Sheriff's Office, Ohio Emergency Management Agency, and the Ohio State Highway Patrol. US EPA and Ohio EPA arrived just after midnight as mentioned above in response #1.

Eventually, Unified Command, overseeing emergency response operations and monitoring, grew to include US EPA, Ohio EPA, Village of East Palestine Fire Chief, Columbiana County (Ohio) Emergency Management Agency, and Norfolk Southern. Unified Command additionally receives cooperating agency support from Federal Emergency Management

Agency, Ohio Department of Health, Ohio River Valley Water Sanitation Commission (ORSANCO), Pennsylvania Department of Environmental Protection, Beaver County (Pennsylvania) Emergency Management Agency, Pennsylvania Emergency Management Agency, Ohio Emergency Management Agency, Pennsylvania Department of Health, Pennsylvania Department of Agriculture, Ohio Department of Agriculture, and West Virginia Department of Environmental Protection.

3. Did any members of the Unified Command structure take unilateral action without fully consulting with other involved organizations?

Not to the knowledge of Ohio EPA.

4. What authority does Ohio EPA have to give orders to a company like Norfolk Southern following an environmental disaster or emergency?

Ohio EPA has been working closely with the Ohio Attorney General's Office throughout the derailment and on March 14, 2023, the state of Ohio filed a lawsuit in federal court against Norfolk Southern.

In addition to Ohio's lawsuit, US EPA issued Comprehensive Environmental Response, Compensation, and Liability (CERCLA) 106 orders to Norfolk Southern on February 21st regarding the cleanup from the train derailment. As part of these orders, Norfolk Southern has developed and started to implement a plan for remediation. This plan was approved by US EPA with Ohio EPA input and concurrence.

5. What official actions, and when, did Ohio EPA take following the derailment to force Norfolk Southern to take action?

See Response #4.

6. What actions were at Ohio EPA's disposal that the agency did not take when working with Norfolk Southern following the train derailment?

During the emergency phase, Ohio EPA uses the authority of the On-Scene Coordinators to redress the emergency through cooperation and partnership and through the requirements of the Incident Commander. Once US EPA issued the 106 CERCLA Order, Ohio EPA used and continues to use our role as part of the Unified Command to require actions by Norfolk Southern.

7. Was the controlled burn the only option available, or could other actions have been taken to release the pressure in the affected areas?

On Sunday, February 5th, Norfolk Southern identified a drastic temperature increase was noticed between 5:00 and 7:00 p.m. This presented the threat of a catastrophic tanker failure and a potential explosion that could send shrapnel traveling up to a mile and cause the release of unburned vinyl chloride and byproducts hydrogen chloride and phosgene gas. Norfolk Southern recommended the option of a controlled burn which the company had used in previous derailments.

8. In the wake of the incident, there were calls from the community and outside experts to test for dioxins in the air and soil in East Palestine and surrounding communities.

a. What are dioxins?

Dioxins refers to a group of toxic chemical compounds that share certain chemical structures and biological characteristics. More information about dioxins can be found at US EPA's [website](#).

b. What is the agency's legal responsibility and mission responsibility to protect Ohioans from dioxin contamination?

Ohio EPA's goal is to protect the environment and public health of Ohio. US EPA initially focused on sampling and analysis for dioxin "indicator chemicals" such as chlorobenzenes and chlorophenols that would suggest the potential for the release of dioxins attributable to the derailment. EPA is analyzing for 19 chlorobenzene and chlorophenol compounds in the area of East Palestine. US EPA collected samples in the potentially impacted area in air, soils, surface water, and sediments.

c. In your opinion, why were community members calling for dioxin testing?

The Mayor and Fire Chief of East Palestine have really done an exceptional job representing their community, protecting their community and connecting their community with people who can provide scientific answers. Looking dioxins testing was just another component to ensure everything is being evaluated in cleanup and remediation.

d. Why wasn't dioxin testing conducted immediately following the controlled burn?

As mentioned above in Response #8 b, US EPA initially focused on sampling and analysis for dioxin "indicator chemicals" such as chlorobenzenes and chlorophenols that would suggest the potential for the release of dioxins attributable to the derailment. EPA is analyzing for 19 chlorobenzene and chlorophenol compounds in the area of East Palestine. US EPA has collected samples in the potentially impacted area in air, soils, surface water, and sediments.

Dioxins may be found in any urban or rural environment as a result of common processes such as burning trash, wood or coal. Dioxins break down slowly in the environment, so the source of dioxins found in any area may be uncertain. To address related questions, US EPA required Norfolk Southern to develop a Residential/Commercial/Agricultural Sampling Plan. The preliminary plan includes inspection of over 270 locations and collection of samples from at least 20 percent of those locations. The plan also requires that Norfolk Southern collect background samples. The sample results will be compared to US EPA Regional Screening levels. In addition, soil sample data will be compared to background results using appropriate statistical methods to assist with determining if the sampling area should be expanded and to compare dioxin levels around East Palestine to dioxin levels in other areas not impacted by the train derailment.

9. Over the past two decades or so, the Ohio EPA has lost about a third of its funding when adjusted for inflation. Do you feel the Ohio EPA has the appropriate resources and authority to protect Ohioans from environment disasters of this magnitude?

As with any emergency response situation, Ohio EPA will evaluate its resources and protocols after the incident, but extra resources or authority would not necessarily have changed how the Ohio EPA Emergency Response Team responded in this event.

10. If the Ohio EPA had access to additional financial resources, staff, technology, or additional legal authority, how would it have changed your response to this disaster?

See Response #9.

11. Many East Palestine residents have spoken out about fears for their health and safety in the weeks and months following the train derailment, initial chemical release, and eventual controlled burn.

- a. Why do you believe the community continues to feel unsafe?

I understand members of the community still have questions about the safety of the air, water, and soil near their homes. There is also extensive misinformation circulating on the internet about East Palestine. Governor DeWine and I are committed to being transparent and combating misinformation with facts and good data. Ohio EPA will remain engaged in site investigation and clean-up activities well into the future, until the air, water and soil at the site have been thoroughly remediated, sampled, and tested to ensure the safety of the residents and the local environment.

- b. What could the Ohio EPA or other agencies have done better in the early days after the incident to communicate levels of uncertainty and risk to the community?

In terms of transparency, our team is posting Ohio EPA full lab results, the minute we get them. Governor DeWine is committed to being transparent and providing all the information that we receive or know.

Governor DeWine's Office began putting out a daily email containing an update on waste disposal and other cleanup efforts. This has been a very useful communications tool.

- c. How does the agency plan to do to improve transparency and trust with the community of East Palestine?

As mentioned above in Response #11 b, our team is posting full lab results as soon as we get them. Ohio EPA attends meetings with the community on a regular basis. Governor DeWine's Office is also continuing to provide updates to the general public several times per week.

- d. Does the agency have plans to create an Ohio EPA Ombudsman or scientist for the community?

There are no plans to create an agency ombudsman or scientist for the area.

- e. What risks and uncertainty still remain for the community in and around East Palestine?

I understand members of the community still have questions about the safety of the air, water, and soil near their homes. Governor DeWine and I are committed to being transparent moving forward. Ohio EPA will remain engaged in site investigation and clean-up activities well into the future, until the air, water and soil at the site have been thoroughly remediated, sampled, and tested to ensure the safety of the residents and the local environment.

12. To date, Norfolk Southern and their contractors haven't built a lot of trust with East Palestine residents and the surrounding communities. The community is demanding that all testing be independent – away from the company.
- a. What authority, if any, does Ohio EPA have to intervene on behalf of a community over concerns raised over improper action by private contractors engaging in hazardous waste clean-up?
 - b. Do you believe the community has confidence in Norfolk Southern's contractors to adequately perform ongoing air, water, and soil testing?
 - c. What concerns have been raised to Ohio EPA from Ohio citizens regarding Norfolk Southern's contractors? Please provide any official documentation the state has received.

Ohio EPA will remain engaged in site investigation and clean-up activities and working through Unified Command under the US EPA's 106 CERCLA Order, will review all of Norfolk Southern's work plans. I am not currently aware of any unaddressed concerns with contractors on site.

13. What long-term plans does the agency have with regard to remediation and holding Norfolk Southern accountable and how are those plans communicated to the community?

Ohio EPA will remain engaged in site investigation and clean-up activities well into the future, until the air, water and soil at the site have been thoroughly remediated, sampled, and tested to ensure the safety of the residents and the local environment. It will require months to conduct the initial investigation and remediation work, followed by an additional period of long-term monitoring to verify that the clean-up goals have been achieved.

As explained above in Response #4, Ohio EPA has been working closely with the Ohio Attorney General's Office throughout the derailment and on March 14, 2023, the State of Ohio filed a lawsuit in federal court against Norfolk Southern.

14. How have the safety protocols for handling hazardous materials changed in the last five year?
- a. What steps are you taking in the next year to ensure safety for everyone involved?

Ohio EPA does not oversee the handling and transportation of hazardous materials and would defer to the appropriate agency that does.

15. Heritage Thermal Services in nearby East Liverpool, Ohio, has received more than 1,000 tons of waste so far – to be burned yet again; residents have been fighting the facility over its emissions for decades. Heritage underwent an investigation and enforcement action from the EPA in 2015 after officials determined the facility had violated the Clean Air Act nearly 200 times between 2010 and 2014. Since then, the facility has recorded air quality violations in eight of the last 12 quarters. Among the chemicals that had been released at dangerous levels was dioxin, and among the issues cited by the EPA was failure by Heritage to maintain a required minimum temperature (which is necessary if you are to incinerate the dioxin). This raises the question about whether the facility can handle more dioxin and PFAS waste.

Additionally, the Ross Incineration facility in Grafton, Ohio, which as received at least 380 tons of waste, has violated its RCRA permit in seven of the last 12 quarters, with significant violations in six

of them. It has been the subject of 16 Clean Air Act and RCRA enforcement actions over the last five years, resulting in more than \$100,000 in penalties.

- a. What role does Ohio EPA play in overseeing Norfolk Southern's removal of contaminated liquid and soil from the train derailment site?

As mentioned above in Response #4, as part of the CERCLA 106 orders issued by US EPA on February 21, 2023, Norfolk Southern must develop and implement a plan that includes remediation of contaminated surface and sub-surface soils. The plan was approved by US EPA with Ohio EPA input and concurrence and sampling has been initiated. More information can be found [here](#).

- b. Is Ohio EPA confident that these Heritage Thermal Services and Ross Incineration can safely handle and dispose of the hazardous materials being removed from the train derailment site?

Facilities issued permits by the Ohio EPA have had the permit conditions evaluated to ensure protection of public health and the environment. In addition, Ohio EPA inspects commercial treatment, storage and disposal facilities at least once per year to ensure compliance with their permit and applicable hazardous waste rules and laws.

- c. Have past violations at these facilities been addressed and adequately remediated? Please explain what specific actions were taken by these companies to bring them in to compliance with state and federal regulations.

Each violation that has previously been noted has been resolved. Resolution of violation letters document the actions taken by facilities to resolve violations and are available on Ohio EPA's [eDocs website](#).

- d. Do you believe that states outside of Ohio should be required to take hazardous materials from the East Palestine train derailment site?
- e. If so, please explain how states balance receiving hazardous materials from across state lines while also working to ensure the public health and safety of communities living close to these waste processing facilities.

The transportation of hazardous materials is outside of Ohio EPA's authority, and I would defer to the appropriate agency that does oversee it.

16. On February 20th a metal manufacturing plant exploded in Oakwood Village, Ohio, killing one person and causing 13 others to be hospitalized. According to news reports, the explosion resulted in black smoke and flames in the air, as well molten debris being scattered a football field's length from the explosion site. The community has since raised concerns about potential exposure to lead and other hazardous materials as a result of the explosion.

- a. Did the blast release harmful levels of lead into the area?
- b. Were those living and working near the blast quickly notified of the explosion?
- c. Did the Ohio EPA adequately relay the risk associated with lead exposure to the community?

See response below.

17. The I. Schumann facility had received previous citations from Ohio EPA for hazardous waste and disposal violations.

- a. What was the reason for these violations?
- b. Did EPA have any ongoing concerns about the ability of the facility to adequately protect workers and the surrounding community from exposure to hazardous substances?

See response below.

18. Concerns have been raised from the community in Oakwood Village, which is predominately black, that Ohio EPA's response has been insufficient, especially when compared to the level of response from the agency in East Palestine, Ohio. In fact, a letter to the community from the Oakwood Village fire chief to the community said that no notification of potential hazardous substances had been released as a result of the incident, despite the fact the facility routinely handled lead and other hazardous materials.

- a. Did Ohio EPA issue an evacuation order in the wake of the explosion?
- b. What kind of monitoring and testing did the Ohio EPA perform in the immediate aftermath of the explosion?
- c. How long did it take for the Ohio EPA to receive results from those initial tests?
- d. Are there additional tests that would have been helpful to do in the first few days after the explosion?
- e. Does Ohio EPA have plans to expand testing efforts in the community?
- f. What is the long term monitoring and testing plan?
- g. Will Ohio EPA hold I. Schumann responsible for the cost of testing and clean-up?
- h. What more could be done to regain confidence of the surrounding community?

See response below.

19. According to the U.S. Centers for Disease Control and Prevention, no amount of lead exposure is safe for children. Research shows that even small amounts of lead in the blood can lead to adverse health effects, including cognitive function, cardiovascular, immunological, and endocrine effects. Reporting from the I. Schumann explosion notes the presence of more than 30-day care centers within three miles of the explosion.

- a. Where the facilities, and others where children are present, such as schools and playground, tested for lead exposure following the explosion?
- b. Can Ohio EPA unequivocally assure parents and teachers that there is no risk of lead exposure from air, soil, water, or surfaces in or around these daycare and other childcare facilities with the community?

See response below.

20. Several community groups have hired independent parties to conduct additional soil testing in the Oakwood Village community.

- a. Will Ohio EPA review the findings of these independent tests?
- b. Does Ohio EPA commit to working with the community to address improve transparency and address ongoing concerns related to the explosion?

Response for questions #16 – #20:

Ohio EPA takes incidents like the explosion that occurred at I. Schumann seriously. When Ohio EPA responds, it is one of multiple government agencies responding to the emergency and all agencies coordinate efforts through the incident commander, who is the local fire chief. The incident commander is in charge of communications/orders with the public (e.g. “shelter-in-place” or “evacuate”). In this case, Oakwood Fire Capt. Brian DiRocco issued a shelter in place order out of an abundance of caution during the fire.

The fire occurred in the production area of the facility, which is not where hazardous waste is stored. This decreased the potential risk to the public during the fire. Ohio EPA has two nearby stationary air monitors that periodically test for lead in the normal course of sampling. Data from the day following the fire did not show lead levels that would create a public health risk. US EPA has set an air quality standard for lead to protect public health and this standard is a rolling three month average. Current data shows that the area continues to comply with the national air quality standard for lead. The City of Cleveland, Division of Air Pollution Control (Ohio EPA’s contractual agent in Cuyahoga County) will continue to monitor for lead in the area.

I. Schumann has hired a contractor to manage the cleanup of this incident. The environmental contractor has performed and continues to perform response activities. The contractor has conducted air monitoring, collected debris from the explosion, managed wastewater collected from firefighting and clean-up activities, covered damaged air pollution control system ductwork to contain dust within the system, cleaned accessible storm sewer lines and collected wastewater from that activity, monitored surface water for contaminants of concern, and collected sediment samples in response to the release.

When activities or events at a hazardous waste facility results in a release of hazardous waste and hazardous constituents into soil, ground water, surface water, sediments, or air, hazardous waste regulations mandate that facilities investigate and clean up these releases. A typical cleanup may include: initial site assessment (which may include off site locations, if impacted by the facility), site characterization, interim actions, evaluation of remedial alternatives, and implementation of a selected remedy.

After the initial response activities are completed, Ohio EPA will continue to work with I. Schumann to ensure that assessment activities are performed. The site assessment will determine what, if any remedial activities are required at the site. There are known areas of impacts from past activities which were being addressed prior to the incident. These areas were not involved in the explosion but are areas where hazardous waste was released to the ground. Although wastes have been removed from these locations, the previously identified areas will require additional assessment and cleanup.

I. Schumann's contractor will create a remediation plan that will be reviewed and approved by Ohio EPA. The plan will include collection of environmental data. Once the extent of the contamination is known, possible cleanup alternatives will be evaluated based on various requirements, including overall protection of human health and the environment; short- and long-term effectiveness; ease of implementation; cost; and community acceptance. Ohio EPA will communicate the cleanup plan to the public and will seek public comment before the plan is finalized.

Ranking Member Capito

1. Did the Ohio EPA have enough resources at its disposal to conduct private well testing in the immediate aftermath of the incident?

Ohio EPA does not regulate private wells in Ohio. Private well testing is overseen by the Columbiana County Health Department in concert with the Ohio Department of Health.

- a. Was the issuance of the Administrative Order necessary to provide enough resources to establish a comprehensive private well testing strategy?

See Response #1.

2. Would it have been more beneficial to the Ohio EPA's response efforts if the Administrative Order was issued sooner?

US EPA's CERCLA 106 orders was an important step in the transition from a state-led emergency response phase to an US EPA-led cleanup phase. This order would not change how Ohio EPA would have first responded.

3. Please explain the extent of the Ohio EPA's involvement in the controlled burn decision.

See Chairman Carper Response #7.

4. Please explain the Ohio EPA's involvement in managing the disposal of waste with Norfolk Southern and any other party prior to issuance of the EPA's February 21, 2023 Unilateral Administrative Order for Removal Actions under the Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) (hereinafter Administrative Order)?

Ohio EPA was engaged in discussions with Norfolk Southern and their contractor and reviewed a draft waste sampling and management plan and a draft staging pile sampling plan prior to issuance of the US EPA's 106 CERCLA Order. Ohio EPA provided comments on the draft plans and communicated expectations to Norfolk Southern to ensure that all wastes generated during the cleanup were properly characterized, managed, and disposed. In addition, Ohio EPA staff performed daily inspections of the waste storage areas and oversaw waste sampling activities.

5. Is it true that Norfolk Southern was the only entity responsible for contracting with facilities to assign where waste from the derailment site would be disposed of?

Norfolk Southern, as the responsible party and generator of the waste, was and is responsible for securing authorized locations for proper management, disposal and/or treatment of the waste.

6. At any point in your participation in the Unified Command Group did you or any Ohio EPA staff raise concerns with Norfolk Southern's involvement in the cleanup effort?

As mentioned above, during the initial state-led emergency response, Unified Command overseeing emergency operations and monitoring included multiple agency partners as well as Norfolk Southern. This is Norfolk Southern's mess to cleanup and they should be held accountable for cost and cleanup.

7. Ohio Governor DeWine issued a public statement strongly disapproving of the federal EPA's decision to require its approval for all future transport and disposal of waste from the derailment site. Did the Ohio EPA express any disapproval to the federal EPA prior to the temporary moratorium on out-of-state waste transport and disposal?

- a. If yes, did the EPA provide any response to your concerns?

- b. Was the response satisfactory for the Ohio EPA?

Ohio EPA believes the approval requirement was an additional step above and beyond all other applicable safety management regulations required under the Resource Conservation and Recovery Act (RCRA) and the US Department of Transportation.

8. Did your agency utilized CERCLA section 128(b)(B)(i) to request the federal EPA to issue the Administrative Order that would require out-of-state regulators to approve of waste disposal facilities?

Ohio EPA did not request that US EPA issue the 106 CERCLA Order.

9. Did the federal EPA make any specific finding that existing Ohio state statutes applicable to the management, transport, and disposal of East Palestine hazardous waste were insufficient to protect public health?

Not to the knowledge of Ohio EPA.

10. Did the EPA make any determination, as required under CERCLA section 128(b)(B)(i) to supersede the State of Ohio's involvement in the cleanup efforts?

- a. If yes, please provide any documents pertaining to this determination as an attachment to your responses.

Not to the knowledge of Ohio EPA.

11. Did the Ohio EPA advocate for dioxin testing in the first two weeks following the derailment?

US EPA initially focused on sampling and analysis for dioxin "indicator chemicals" such as chlorobenzenes and chlorophenols that would suggest the potential for the release of dioxins attributable to the derailment. EPA is analyzing for 19 chlorobenzene and chlorophenol compounds in the area of East Palestine. US EPA has collected samples in the potentially impacted area in air, soils, surface water, and sediments.

- a. If yes, how did the federal EPA respond to these requests?

On March 2, 2023, US EPA began requiring Norfolk Southern to test directly for dioxins.

12. On some occasions, the Ohio EPA issued data sourced from the federal EPA before the Agency itself. Did the Ohio EPA find it necessary to fill the information vacuum left by the federal EPA in an attempt to ease residents' concerns?

While there were gaps in communications in the early hours following the derailment, the response teams are working well on the ground today.

13. Why was testing for residents' private wells and indoor air quality only conducted upon residents' request?

Ohio EPA does not regulate private wells in Ohio. Private well testing is overseen by the Columbiana County Health Department in concert with the Ohio Department of Health. US EPA oversees air monitoring in East Palestine and the surrounding area.

14. Did the Ohio EPA or, to your knowledge, any other organization participating in the response efforts, consider proactively testing residents' private wells and homes for air and water contamination?

See Response #13 for air and private well testing.

Ohio EPA's immediate emergency response included taking actions to redress the imminent and acute threats such as containing the release of chemicals into the nearby Sulphur Run and pumping clean water around the containment area to isolate any grossly contaminated water and sediments. This minimizes chemicals flowing downstream while contractors work to remove contamination through aeration and sediment washing.

Sulfur Run flows into Leslie Run, which flows into Bull Creek, which flows into North Fork Little Beaver Creek, which flows into Little Beaver Creek, which empties into the Ohio River. The latest water sample results of the Ohio River by the Ohio River Valley Water Sanitation Commission (ORSANCO) indicate no detections of chemicals from the derailment. In addition, no vinyl chloride has been detected in the surface water anywhere outside the containment areas.

Contractors take samples in 20 different locations and have a website setup with an interactive map where you can see exactly where sampling is occurring and what is being sampled for. Generally, we are continuing to see dilution of the chemicals of concern. All this information can be found at Ohio EPA's [website](#).

To ensure the East Palestine's water supply remains safe following the Norfolk Southern train derailment, we have been sampling the five municipal supply wells and the treated water on a weekly basis since February 11, 2023. In addition to witnessing the sample collection by Norfolk Southern contractors, Ohio EPA is collecting an independent sample for separate confirmation analysis and testing for a broad array of Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs).

To protect the Village in the near- and the long-term, we installed sentinel monitoring wells between the municipal wellfield and contaminated waterways. These four monitoring wells will identify contamination to groundwater before it reaches the wellfield. Monitoring wells are being installed around the derailment site, and along with soil testing, will determine the presence and potential extent of any groundwater contamination. While the work and assessments at the derailment site proceed, the sentinel wells will be sampled weekly. Lab results are posted publicly on Ohio EPA's [website](#).

- a. If not, please explain why a proactive approach to testing was not suggested by the Ohio EPA.

See Response #14.

15. Did Norfolk Southern, or, to your knowledge, any other organization participating in the UCS consider providing residents with alternative lodging in the first two weeks following the derailment?

Not to the knowledge of Ohio EPA..

16. The earliest publicly available indication of alternative lodging being provided to residents was not until Sunday, March 5, 2023. Were residents provided an option to request alternative lodging prior to this date?

Not to the knowledge of Ohio EPA.

Senator CARPER. Thanks very much, Ms. Vogel. Please convey our best to Mike DeWine, who used to serve here, and now we are Governors and Congressmen together as well.

For some people who are watching this, joining us from across the Country, you may be wondering why we have an EPA Region III. The EPA has ten regions that they operate and are responsible for. One of them is here, represented today, for Ohio.

Delaware and West Virginia are in Region III, and Pennsylvania, the three of us are all Region III. Every State has a State agency that focuses on environmental protection. In Delaware, it is the Department of Natural Resources and Environmental Control. In Ohio, where I spent a lot of years of my life when I was a kid, it is the EPA of Ohio. We are delighted that you are here and representing the Governor and the State.

Next, we are going to hear from Mr. Richard Harrison, the Executive Director and Chief Engineer for the Ohio River Valley Water Sanitation Commission, ORSANCO. I am not real big on acronyms, so tell us, before you even start your testimony, Mr. Harrison, tell us, what is ORSANCO, so that anybody watching this on the television across the Country can say, Okay, I understand that.

**STATEMENT OF RICHARD HARRISON, EXECUTIVE DIRECTOR
AND CHIEF ENGINEER, OHIO RIVER VALLEY WATER SANITA-
TION COMMISSION**

Mr. HARRISON. We are an interState commission, sir, and we represent eight States within the Ohio River Basin, and we work on protecting the water quality, the water uses of the interState waters of the basin. We have been here about 75 years doing this great work.

Senator CARPER. Have you been there for all those 75 years? Probably not.

Mr. HARRISON. Almost.

[Laughter.]

Senator CARPER. Thank you. Go right ahead, Mr. Harrison. Thanks for joining us.

Mr. HARRISON. Good morning, Chairman Carper, Ranking Member Capito, and members of the committee. My name is Richard Harrison, Executive Director and Chief Engineer of the Ohio River Valley Water Sanitation Commission. We are known as ORSANCO.

We are an interState commission that carries out our compact signed by eight States: Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia, and West Virginia, with approval by the U.S. Congress and participation by the Federal Government. Since its inception in 1948, ORSANCO has worked to improve and protect the water quality of the interState waters of the Ohio River basin.

I appreciate the opportunity to testify before this committee today regarding ORSANCO's efforts as part of an exceptional partnership to respond to the East Palestine train derailment and downstream impact on the Ohio River. ORSANCO's Compact specifies the protection of the interState waters, the Ohio River Basin, as a safe and suitable public-industrial water supply after reasonable treatment. This is a critical service that ORSANCO provides

to the 30 Ohio River surface drinking water utilities that supply the millions of customers that rely on them for safe drinking water.

ORSANCO's ability to excel in this type of response is only possible through the combined efforts of our partners, including the Ohio River drinking water utilities, our member States and Governors, the United States EPA, the United States Army Corps of Engineers, and other Federal partners.

I must highlight Ohio Governor DeWine, the Ohio Environmental Protection Agency, and U.S. EPA Region V for their on-scene leadership in this particular response, and the Greater Cincinnati Water Works, GCWW, who provided critical laboratory analysis for numerous samples on a 24-7 basis.

ORSANCO has an extraordinary team of 22 professionals and a total annual budget of \$3.9 million. This is below our 2003 budget level. I am very proud of the strong value our organization provides to our many partners that was most recently demonstrated through our successful response to the diluted chemical spill remnants of this event that reached the Ohio River.

The foundation of our chemical response is our staff's coordination with our partners, utilizing ORSANCO's Organics Detection System, ODS. The ODS includes 16 scientific laboratory instruments owned and operated by ORSANCO and then, on-scene operated by the Ohio River drinking water utilities themselves. This system provided the early warning that chemicals from the derailment had reached the Ohio River.

The ODS has subsequently provided over 40,000 screening level test results for 30 volatile organic chemicals. Over 130 special samples of the Ohio River were collected by my scientists and analyzed by Greater Cincinnati Water Works Laboratory. The proximity of the leading edge of the diluted spill remnants was tracked by ORSANCO's Time-of-Travel Computer Model and confirmed by daily sampling completed by our scientists. This information proved invaluable to our partners.

N-Butyl Acrylate, 2-Ethyl-hexanol, and 2-Ethylhexyl-acrylate were detected through ORSANCO's initial sampling efforts from the Little Beaver Creek, the tributary below East Palestine that feeds the Ohio River near the Ohio and Pennsylvania State border. As a result, we were able to calibrate six of our more sophisticated ODS stations to quantify any detections of these chemicals that may be found in the remnants.

The Agency of Toxic Substances and Disease Registry, ATSDR, provided invaluable, timely provisional health guidance screening levels for these chemicals to determine what level might pose a health risk to finished drinking water. These screening levels were 560 parts per billion for n-butyl-acrylate, 500 parts per billion for 2-Ethylhexyl-acrylate, and 200 parts per billion for 2-ethyl-hexanol. Our highest Ohio River detection for n-butyl-acrylate was 4.3 parts per billion, and the analysis results for the other chemicals were all below one part per billion.

The ATSDR health screening levels and ORSANCO's ODS and special sampling data analysis provided the scientific foundation for our conclusion that there were no Ohio River detections at any levels approaching a concern to public health. This information was

tabulated, posted on ORSANCO's website, and communicated to the public.

ORSANCO's ability to provide this high level of chemical spill response is dependent upon our ability to secure sustainable funding through the Fiscal Year 2024 Federal appropriations process. This includes the Organics Detection System.

If the recent accident has taught us anything, it is that we depend on this system and our capable staff and partners to respond to threats to our drinking water supply. The current ODS equipment was last funded by Congress in 2009 and needs replacement at an approximate cost of \$4.7 million.

In short, ORSANCO provided the level of service that our customers have depended on. Without this Federal investment, this will be a challenge in the future.

Let me thank the committee once again for the opportunity to testify today. Thank you.

[The prepared statement of Mr. Harrison follows:]



**OHIO RIVER VALLEY
WATER SANITATION COMMISSION**

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TESTIMONY OF RICHARD B. HARRISON, P. E.

**EXECUTIVE DIRECTOR AND CHIEF ENGINEER
OHIO RIVER VALLEY WATER SANITATION COMMISSION**

**BEFORE THE
U.S. SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS**

**REGARDING
PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT IN THE WAKE OF
THE NORFOLK SOUTHERN TRAIN DERAILMENT AND CHEMICAL RELEASE
IN EAST PALESTINE, OHIO**

March 9, 2023

Good morning, Chairman Carper, Ranking Member Capito, and Members of the Committee. My name is Richard Harrison; I am the Executive Director and Chief Engineer of the Ohio River Valley Water Sanitation Commission (ORSANCO). ORSANCO is an interstate commission that carries out our compact signed by eight states – Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia and West Virginia – with approval by the United States Congress and participation by the federal government. Since its inception in 1948, ORSANCO has worked to improve and protect the water quality of the interstate waters of the Ohio River Basin.

Article 1 of ORSANCO's Compact states that "Each of the signatory States pledges to each of the other signatory States faithful cooperation in the control of future pollution in and abatement of existing pollution from the rivers, streams and water in the Ohio River basin which flow through, into or border upon any of such signatory States, and in order to effect such object, agrees to enact any necessary legislation to enable each such State to place and maintain the waters of said basin in a satisfactory sanitary condition, available for safe and satisfactory use as public and industrial water supplies after reasonable treatment, suitable for recreational usage, capable of maintaining fish and other aquatic life, free from unsightly or malodorous nuisances due to floating solids or sludge deposits, and adaptable to such other uses as may be legitimate." ORSANCO completes significant water quality work to support its Compact.

I appreciate the opportunity to testify before this Committee today regarding ORSANCO's efforts, as part of an exceptional partnership, to respond to the East Palestine Train Derailment and its downstream impact on the Ohio River. ORSANCO's Compact specifies the protection of the interstate waters of the Ohio River Basin as a safe and suitable public and industrial water supply after reasonable treatment. This is a critical service that ORSANCO provides to the 30 Ohio River surface drinking water utilities that supply the millions of customers they serve.

ORSANCO's ability to excel in this type of response is only possible through the combined efforts of our partners including the Ohio River drinking water utilities; our member states and their governors; the United States Environmental Protection Agency (USEPA); the United States Army Corps of Engineers (USACE); and other federal and local partners. I must highlight Ohio Governor DeWine, Ohio Environmental Protection Agency, and USEPA Region V for their on-scene leadership in this particular response, and the Greater Cincinnati Water Works (GCWW) who provided critical, laboratory analysis for numerous samples on a 24/7 basis.

ORSANCO has an extraordinary team of 22 professionals and a total annual budget of \$3.9 million, which is below our 2003 budget level. We receive federal funding of \$1.4 million from a USEPA Clean Water Act, Section 106 Grant. Section 106 Grant funding has remained stagnant over the past 13 years. I am proud of the strong value our organization provides to our many partners that was most recently demonstrated through our successful response to the diluted chemical spill remnants of this event that reached the Ohio River.

The foundation of ORSANCO's chemical spill response is our staff's coordination with our partners, utilizing ORSANCO's Organics Detection System (ODS). The ODS includes 16 scientific laboratory instruments owned and maintained by ORSANCO and operated primarily by our Ohio River drinking water utilities. This system provided the early warning that chemicals from the derailment had reached the Ohio River.

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The Agency of Toxic Substances and Disease Registry (ATSDR) provided invaluable, timely provisional health guidance screening levels for these chemicals to determine what level might pose a health risk to finished drinking water. There is no drinking water maximum contaminant level (MCL) for these and many other chemicals that are stored or transported near the Ohio River. These screening levels were 560 parts per billion (ppb) for n-butyl-acrylate; 500 ppb for 2-Ethylhexy-acrylate; and 200 ppb for 2-ethyl-hexanol. Our highest Ohio River detection for n-butyl-acrylate was 4.3 ppb and the analysis results for the other two chemicals were all below 1 ppb. The ATSDR health screening levels and ORSANCO's ODS and special sampling data analysis provided the scientific foundation for our conclusion that there were no Ohio River detections at any levels approaching a concern to public health. This information was tabulated, posted on ORSANCO's website and communicated to the public.

ORSANCO's ability to provide this high level of chemical spill response is dependent upon our ability to secure sustainable funding through the fiscal 2024 federal appropriations process. This includes the Organics Detection System. If the recent accident has taught us anything, it is that we depend on this system, and our capable staff and partners, to successfully respond to threats to our drinking water supply. The current ODS equipment was last funded by Congress in 2009 and needs replacement at an approximate cost of \$4.7 million. In short, ORSANCO needs additional sustainable federal investment to be able to provide the level of service our partners have come to expect and rely upon.

Please find enclosed exhibit A, which is the sampling map and data results table from the East Palestine Train Derailment chemical spill event. Also please find enclosed exhibit B, which is a report titled "Occurrence of Releases with the Potential to Impact Sources of Drinking Water" provided to ORSANCO" by Steven C. Allgeier with USEPA's Office of Ground Water and Drinking Water, Water Security Division that provides relevant information related to my testimony. This report provides supporting details about the high frequency of chemical spills in the Ohio River Basin that helps demonstrate why ORSANCO's Spill Monitoring and Response program utilizing its Organic Detection System is so critical.

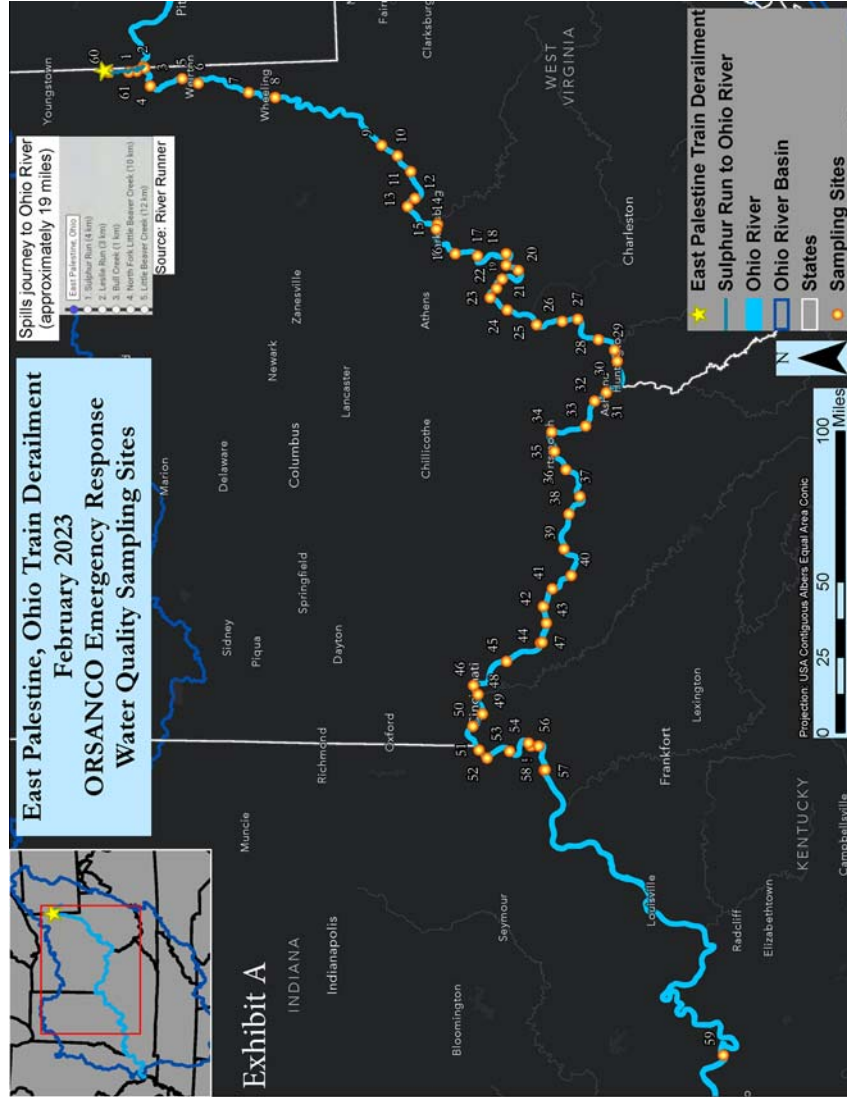




EXHIBIT B

**OCCURRENCE OF
RELEASES WITH
THE POTENTIAL TO
IMPACT SOURCES
OF DRINKING
WATER**



Disclaimer

The Water Security Division of the Office of Ground Water and Drinking Water has reviewed and approved the report "Occurrence of Releases with the Potential to Impact Sources of Drinking Water" for publication in February 2021. This document is intended for use by the drinking water sector to better understand the risk of potential releases into sources of drinking water. It may provide information useful for conducting *Risk and Resilience Assessments*, as required under America's Water Infrastructure Act (AWIA) of 2018.

AWIA, Section 2013 requires community water systems to conduct *Risk and Resilience Assessments*, which must consider important system assets, including source water. This report demonstrates that releases to sources of drinking water occurred at an average rate of 393 releases per year over the 10-year study period. Furthermore, the report demonstrates this risk is not equally distributed across the water sector – some community water systems are at substantially greater risk of releases to their source water. To address this risk, this report recommends that community water systems conduct an inventory of facilities that could release a harmful substance into their source water as part of their AWIA *Risk and Resilience Assessments*. An important resource for developing contamination threat inventories is Tier II chemical inventory data collected under the Emergency Planning and Community Right to Know Act (EPCRA). AWIA, Section 2018 amended EPCRA to provide community water systems with access to Tier II chemical inventory data.

This report is new. It does not modify or replace any previous EPA guidance documents. This document does not impose legally binding requirements on any party. The information in this document is intended solely to recommend or suggest and does not imply any requirements. Neither the U.S. Government nor any of its employees, contractors or their employees make any warranty, expressed or implied, or assumes any legal liability or responsibility for any third party's use of any information, product or process discussed in this document, or represents that its use by such party would not infringe on privately owned rights. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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Abbreviations

ATSDR	Agency for Toxic Substances and Disease Registry
CWA-HS	Clean Water Act Hazardous Substances
CWS	Community Water System
GW	Groundwater
HSEES	Hazardous Substance Emergency Events Surveillance
HUC	Hydrologic Unit Code
kgal	One thousand gallons
lat/long	Latitude and Longitude coordinates
NHD	National Hydrography Dataset
NRC	National Response Center
NTSIP	National Toxic Substances Incidents Program
ORSANCO	Ohio River Valley Water Sanitation Commission
PCBs	Polychlorinated biphenyls
PHMSA	Pipeline and Hazardous Materials Safety Administration
SDWIS	Safe Drinking Water Information System
SW	Surface water
TRI	Toxics Release Inventory
U.S. CG	United States Coast Guard
U.S. CSB	United States Chemical Safety and Hazard Investigation Board
U.S. EIA	United States Energy Information Administration
U.S. EPA	United States Environmental Protection Agency
ZOC	Zone of Concern

Section 1: Introduction

1.1 Background

Releases of harmful chemicals through accidents or unpermitted discharges into sources of drinking water can cause significant problems for public water systems and the communities they serve. Potential consequences can include adverse impacts on public health, interruptions in water service, loss of public confidence, increased treatment costs, damage to water system infrastructure, and cost to mitigate the impacts of the release. Congress recognized the importance of this risk to source water by including Section 1018 in America's Water Infrastructure Act which authorizes community water systems to access hazardous chemical inventory data and requires that these systems receive prompt notification of spills contaminating their source water (U.S. Congress, 2018).

1.1.1 Notable Releases to Source Waters

Several source water contamination incidents have been reported in the media, and a few notable contamination incidents are summarized in **Table 1**. The amount of material released in these examples ranged from 10,000 gallons to more than 11 million gallons. Materials released include coal ash, mine waste, wastewater, and uncommon industrial chemicals like crude methylcyclohexane methanol. The causes of the releases shown in Table 1 include equipment failure, operator error, and natural disasters. Regardless of their specific conditions, all of the releases share one thing in common – they significantly degraded the quality of a source of drinking water.

Table 1. Examples of Significant Source Water Contamination Incidents (2010 to 2019)

Year	Waterbody	Description
2011	Mulberry Fork, AL (NRC# 975693)	On May 8, 2011, approximately 1.6 million gallons of untreated wastewater was released from American Proteins into the Mulberry Fork, a source of drinking water for the City of Birmingham. The release resulted from tornado damage to a wastewater treatment basin. Subsequent releases from this same facility include a release of 80,000 gallons of wastewater in May/June 2015 and a release of 900 gallons of sulfuric acid in August 2016 (Sack, 2016).
2014	Elk River, WV (NRC#: 1070627)	On January 9, 2014, approximately 10,000 gallons of a mixture containing methylcyclohexane methanol (MCHM) was released to the Elk River, due to corrosion in an above ground storage tank. The Elk River is the drinking water source for Charleston, WV. The contamination incident resulted in a "do not use" order for approximately 300,000 residents for 4 to 9 days (U.S. CSB, 2016; Rosen et al. 2014).
2014	Dan River, NC (NRC#: 1073040)	On February 2, 2014, approximately 39,000 tons (11 million gallons) of coal ash (containing arsenic, cadmium, lead, mercury, and other metals) was released into the Dan River from the Duke Energy Dan River Steam Station near Eden, NC. The release resulted from failure of a stormwater pipe that allowed the contents of the coal ash impoundment to leak into the river for several days. The release impacted water quality at several drinking water intakes in North Carolina and Virginia. Testing of treated water at the downstream community water systems indicated that National Primary Drinking Water Standards were met (U.S. EPA, 2014). However, elevated concentrations in the source water may have exceeded these standards, and no information was available for contaminants not regulated under the Safe Drinking Water Act.
2015	Yellowstone River, MT (NRC#: 1105969)	On January 17, 2015, a ruptured oil pipeline leaked approximately 40,000 gallons of crude oil into the Yellowstone River in Montana. The release impacted the drinking water source for the nearby town of Glendive (Beker, 2015). Testing of treated water in Glendive showed no contamination, however, residents reported odors of diesel fuel prompting the system to issue a "do not use" notice (National Park Trips Media, 2017).

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Year	Waterbody	Description
2015	Cement Creek & Animas River, CO (NRC#: 1124824)	On August 5, 2015, approximately 3 million gallons of mine waste (containing arsenic, lead, and other metals) was released from the Gold King mine complex to Cement Creek near Silverton, CO. The release was due to a breach in the containment structure that occurred during an inspection. Cement Creek is a tributary of the Animas River which flows into the San Juan River near Farmington, NM. The contaminant plume reached Lake Powell on August 12. Five drinking water systems draw water from the Animas River, and these systems closed their intakes and/or issued "do not use" notices. Advisories were issued for private domestic wells along the Animas River (U.S. EPA, 2015a).
2017	Ohio River, KY / OH (NRC#: 1200030)	On December 19, 2017, an estimated 467,000 gallons of urea ammonium nitrate was released when a barge suffered catastrophic failure. The release threatened the drinking water supply for downstream utilities in Louisville, KY, Evansville, IN, and Henderson, KY (ORSANCO, 2018). Staff from Louisville Water Co. and ORSANCO monitored the river conditions daily and then hourly as the spill flowed to Louisville. Strategic management of the intake rate helped the system avoid pulling in water at peak contaminant concentration (Louisville Water Company, 2017).

NRC#: National Response Center report number

1.1.2 Previous Research

The examples listed in **Table 1** were reported in widely distributed media, but such reporting is the exception. Most releases into sources of drinking water receive scant attention outside of notification to the responsible parties, responders, and ideally to affected community water systems. Because releases to the environment are under-reported, there is no definitive assessment of the number or impact of releases to water. However, several research efforts have attempted to characterize the occurrences of releases that impacted sources of drinking water.

A research group at the University of Mississippi developed a database of releases into sources of drinking water that occurred between 1990 and 2006. Two sources of information were used to populate this database, the *National Response Center* (NRC) and *Hazardous Substance Emergency Events Surveillance* (HSEES), both of which are described later in this section. A stated objective of the project was to capture releases that impacted drinking water infrastructure; however, the project report did not provide the methodology for making this determination (Zhu et al, 2009). The database is no longer available from the project website.

During the development of the *Clean Water Act Hazardous Substances Spill Prevention Proposed Rule*, U.S. EPA analyzed NRC records to identify releases involving Clean Water Act Hazardous Substances (CWA-HS) over a 10-year period between 2007 and 2016. Over this period, a total of 285,867 incidents were reported to the NRC, of which 9,416 (3.3%) involved the release of a CWA-HS with 3,140 (1.1%) of these releases reaching water. This analysis reported that polychlorinated biphenyls (PCBs) were the most commonly released CWA-HS, involved in 59% of CWA-HS releases that reached water. The next four most frequently released CWA-HS were: sulfuric acid, sodium hydroxide, ammonia, and benzene (U.S. EPA, 2018).

Several studies have focused on the release of oil and related materials to water. One such study analyzed 6,622 spills from 21,300 unconventional oil and gas extraction wells in four states (Pennsylvania, North Dakota, Colorado, and New Mexico) from 2005 to 2014. The U.S. Forest Service's *Forest to Faucets* "index of importance as a source of drinking water" was used to evaluate the risk to drinking water supplies. Releases were characterized with respect to location (state), material released, and volume released. The most commonly released materials were: production waste streams (brine,

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flowback, and produced water), crude oil, hydraulic fracturing solution, drilling waste (drilling mud, cuttings, and drilling fluid), and production chemicals (hydrochloric acid, antifreeze, surfactants, and glycol). The volume of material released ranged from 0.0001 to 991 kgal (Maloney et al, 2017).

U.S. EPA conducted a study to evaluate the potential impact of releases associated with hydraulic fracturing on surface and ground waters. State databases were used to identify releases that occurred between January 2006 and April 2012 in ten states with the most hydraulic fracturing activity reported at the time of the study: Arkansas, Colorado, Louisiana, New Mexico, North Dakota, Oklahoma, Pennsylvania, Texas, Utah, and Wyoming. Data sources were searched separately using a combination of filters, keywords, and line-by-line reviews, with additional details provided by the state, service company, and well operator where applicable. Of the approximately 36,000 release records identified, 24,000 (66%) were determined to be unrelated to hydraulic fracturing, and most of the remaining 12,000 (33%) records had insufficient data to make the determination. 457 release records could be linked to hydraulic fracturing, of which 370 (81% of hydraulic fracturing-related spills) reported the volume released, which ranged from fewer than 5 gallons to more than 1.3 million gallons. Fifty-six percent of these 370 records involved a release volume less than 1,000 gallons, and accounted for only 3% of the total volume released by the 370 incidents. The majority (57%) of volume released came from a single spill of 1.3 million gallons of flowback and produced water. Storage units were the most common source of a release and failure of container integrity (e.g. holes, seal failures) were generally associated with larger release volumes (U.S. EPA, 2015b).

A study evaluating oil releases over a 20-year period from 1980 to 2000 determined that crude oil accounted for the greatest volume released while light fuels accounted for the greatest number of releases (Etkin, 2004). In a later study, U.S. EPA Region 5 analyzed NRC records to characterize the vulnerability of sub-watersheds in its states (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) to releases of crude oil (Brody et al, 2012).

1.1.3 Release Tracking Databases

In addition to snapshot studies, some state and federal programs track source water spills over time. The NRC, for example, is an emergency call center that fields initial reports of releases and forwards that information to the appropriate federal or state agencies. The NRC posts release reports to their website for every calendar year starting in 1990. These reports contain initial information about the incident, and in most cases this information has not been validated or investigated by a response agency (U.S. CG, 2020). A number of studies have used the NRC as a primary source of information about releases, including: Balasubramanian and Louvar, 2004; Etkin, 2004; Howard et al, 2008; Zhu et al, 2009; Brody et al, 2012; and U.S. EPA, 2018.

The *National Toxic Substances Incidents Program* (NTSIP), managed by the Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR) was active between 2010 and 2018. Release of toxic substances from seven states (Louisiana, New York, North Carolina, Oregon, Tennessee, Wisconsin, and Utah) were captured in NTSIP. This program replaced a similar program, *Hazardous Substance Emergency Events Surveillance* (HSEES), which was active from 1990 through 2009. The HSEES monitored for incidents in 14 partner states (ATSDR, 2018).

The *Toxic Release Inventory* (TRI) is a program created under the Emergency Planning and Community Right to Know Act. TRI requires industries that meet specific criteria to file an annual report documenting releases of certain toxic chemicals to air, land, and water that may pose a threat to human

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health and to the environment. TRI reporting is limited to a list of approximately 755 individual chemicals and 33 chemical categories. TRI reporting limits change over time, complicating temporal analysis of releases. Facilities must submit annual reporting forms for each chemical if they manufacture, process, or otherwise use the chemical in amounts above established levels (U.S. EPA, 2020).

The Pipeline and Hazardous Materials Safety Administration (PHMSA) is managed by the U.S. Department of Transportation and maintains a Hazmat Incident Database that contains information from the Hazardous Materials Incident Report Form 5800.1. This database includes information on the quantity of material released, mode of transportation, packaging information, and impacts of hazardous materials released during transportation (PHMSA, 2020).

Collectively, these studies and data collection efforts provide valuable insight into the occurrence of releases that impact sources of drinking water. However, the efforts described are either limited in scope (i.e., a limited number of substances or a limited geographic region), or they do not differentiate between releases to any media and releases specifically to sources of drinking water. A review of published studies failed to yield a comprehensive, national study of releases into sources of drinking water in the U.S.

1.2 Objectives

The objective of the study described in this report was to characterize the occurrence of releases into sources of drinking water used by community water systems in the U.S.

Specifically, the study evaluated:

- Temporal occurrence of releases between 2010 and 2019 (full calendar years)
- Geographic occurrence of releases
- Type and amount of material released
- Responsible party and cause of releases
- Distribution of the number of releases impacting individual community water systems

Furthermore, the results of this study are intended to inform *Risk and Resilience Assessments*, as required under AWIA, Section 2013. One of the assets that must be considered in these assessments is source water, and as shown by the results presented in this report, some community water systems face a risk of spills and releases into their source of drinking water. Systems that have experienced source water contamination incidents previously, or determine that they are at risk, should consider developing an inventory of facilities that could release a harmful substance into their source water. An important resource for developing contamination threat inventories is Tier II chemical inventory data collected under the Emergency Planning and Community Right to Know Act (EPCRA). AWIA, Section 2018 amended EPCRA to provide community water systems with access to Tier II chemical inventory data.

1.3 Scope

The scope of this analysis was limited to the following:

- Releases reported to the NRC. The NRC is a national call center that receives initial reports of releases of any material into any medium. While the NRC is the most comprehensive source of information about releases in the U.S., releases do occur that are not reported to the NRC.

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- Community water systems. This analysis was limited to releases into source water zones of concern (described in Section 2.3) for community water systems, as defined in Section 1401(15) of the Safe Drinking Water Act. Community water systems were considered in this analysis, rather than all public water systems, because the former are required to conduct risk and resilience assessments, and one asset that must be considered in these assessments is source water.

Section 2: Methodology

2.1 Data Sources

<p>Safe Drinking Water Information System (SDWIS) was used to identify community water systems from among the larger universe of public water systems and provided information such as the source water type (e.g., surface water, ground water) and location of intakes and wells for community water systems.</p>	<p>Media reports were used to investigate, validate, and in some cases correct initial NRC reports for significant releases (i.e., large volume releases). Media reports from reputable outlets were considered more reliable than the NRC reports because the latter are preliminary and often incomplete, while the former use sources such as representatives from state and federal response agencies and drinking water systems to obtain details about the incident.</p>
<p>National Hydrography Dataset (NHD) served as the primary source of information about location of surface waterbodies. The high-resolution NHD waterbody areas and flowlines were used when available, otherwise medium-resolution NHD flowlines and waterbody boundaries were used. Figure 1 provides an example of NHD waterbody and flowline representations.</p>	<p>National Response Center (NRC) served as the primary source of information about releases. The NRC annual release reports for 2010 through 2019 were downloaded from the NRC website (nrc.uscg.mil). A list of the fields extracted from the NRC reports to support this analysis is provided in Appendix A.</p>

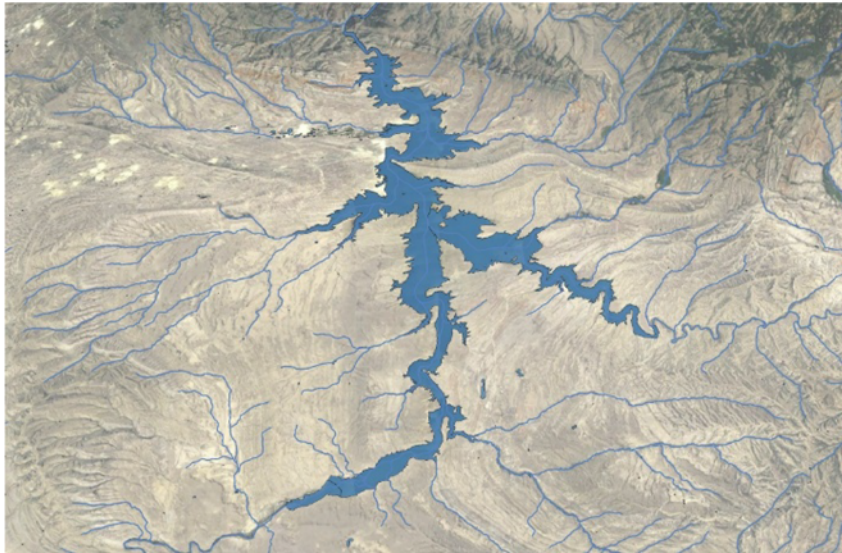


Figure 1. Example of NHD Flowline and Waterbody Representations

2.2 Data Processing

While the data fields in the NRC record are standardized, data entry errors occurred. Most errors involve incorrect spelling and inconsistent naming of record attributes such as the names of waterbodies and materials released. Additionally, details such as the name of the material released and the units for the volume of material released are not standardized, which results in the use of synonyms or ambiguous identifiers and several different volumetric or weight units. In some cases, important details about the spill such as additional materials released and volumes of the materials released were included in the free-text *Incident Details* field but not carried over into the appropriate, specific data fields. Finally, a significant number of records were missing information important to the analysis, such as the precise location of the release, the name of the material released, and volume of material released.

The following data processing was performed prior to analysis.

- **Populate missing information** for the name and volume of material released by parsing and searching the *Incident Details* field, which is a free-text field used to capture non-standard information provided by the individual reporting the release.
- **Amount of material in water** was assumed to be equal to the volume of material released if the *Incident Details* field provided information to indicate the release likely occurred directly into a waterbody and if the *Amount of Material Released* field was populated while the *Amount in Water* field was empty. As an example, if a record reported that 1,000 gallons of diesel fuel was released, and the *Incident Details* stated that the release was from a rail car that derailed into a stream, it would be assumed that the *Amount in Water* was 1,000 gallons if this field was left blank.
- **Names of bodies of water** were corrected for spelling errors and standardized to a common name for each waterbody. Rules used to standardize the names of bodies of water are provided in Appendix B.
- **Names of materials released** were corrected for spelling errors.
- **Material categories** were developed to group similar materials together to support an aggregate analysis for trends in the types of material released (see **Table 2**). Note that these material categories are limited with respect to understanding potential consequences. Each specific material has unique properties that will impact fate and transport, treatability, and public health concerns.
- **Units for the amount of material released and amount in water** were normalized to gallons where possible. The conversion factors used are listed in Appendix C.
- **Location data** was standardized by removing extraneous characters and applying algorithms to identify a best address for the location of each release (when address information was provided in the NRC record). The best address was then geocoded to support spatial analysis. The methods used to prepare location data are described in Appendix D.

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Table 2. Material Categories

Category	Materials Most Commonly Released that Fall within the Category
Acid	Sulfuric Acid, Hydrochloric Acid, Phosphoric Acid
Alcohol	Denatured Alcohol, Bourbon
Antifreeze	Ethylene Glycol, Propylene Glycol
Caustic Material	Sodium Hydroxide, Caustic Soda Solution
Chlorine	Sodium Hypochlorite, Chlorine
Coal Combustion By-Products	Coal Ash, Creosote, Fly Ash
Crude Petroleum	Crude Oil
Cyanide Compounds	Sodium Cyanide Solution
Drilling Fluid	Drilling Brine, Produced Water, Drilling Mud
Fertilizer	Fertilizer, Anhydrous Ammonia, Urea, Ammonium Nitrate Urea Solution
Firefighting Foam	Fire Fighting Foam, Fire Fighting Water, AFFF (Aqueous Film Forming Foam)
Food Products	Milk, Vegetable Oil, Palm Oil
Metals and Metalloids	Arsenic, Lead
Mine Waste	Mine Waste, Mine Water
Organic Solvents	Toluene, Ethyl Alcohol, Ethanol, Acetone
Paint	Paint, Oil Based Paint
Pesticides/Herbicides	Dieldrin, Paraquat Dichloride, Diphenylamine, Insecticide
Radiological Materials	Radioactive Material, Uranium, Radium
Refined Oil	Automotive Gasoline, Fuel Oil, Diesel Oil, Hydraulic Oil
Salt Water	Saltwater
Transformer Oil	Transformer Oil, Mineral Oil, Polychlorinated Biphenyls
Unknown Material	Unknown Chemicals, Unknown Material
Wastewater	Sewage, Wastewater

2.3 Defining Zones of Concern

Zones of concern (ZOC) were developed using the locations of surface water intakes and groundwater wells. Releases with adequate location data were analyzed to determine whether they occurred within a ZOC for a community water system. The criteria for establishing surface water (SW) ZOCs are shown in the callout box and are consistent with criteria for establishing source water area delineations for conducting a source water contamination threat inventory (U.S. EPA, 2006).

Surface Water (SW) ZOCs: The ZOC for each surface water intake extends 50 miles upstream, ¼ mile downstream, includes all major tributaries, and includes a ¼ mile buffer inland from the waterbody area boundary (see Figure 2 for an example).

The confidential version of SDWIS was used to identify 5,119 surface water intakes for community water systems serving a population greater than 1,000 customers. SW ZOCs were delineated for 4,899 of these surface water intakes, while ZOCs could not be delineated for 220 intakes because intakes were located too far away from the NHD flowlines, on the shores of lakes or reservoirs, or in areas with highly complex NHD flowlines. Three of the 220 surface water intakes for which a ZOC was not delineated belong to community water systems serving more than 500,000 people. The intakes for these three large systems are located in highly protected source water areas that contain no industry, chemical storage (other than that maintained by the community water system), transportation routes, or pipelines, and thus are unlikely to have experienced a release. The 220 SW ZOCs that did not delineate properly were reviewed and 30 were selected for manual processing: 26 were selected because the associated community water system has a population served greater than or equal to 100,000 or a number of service connections greater than or equal to 30,000. An additional four SW ZOCs were selected because the intakes are located in a watershed that experienced releases in other SW ZOCs. Applying these adjustments, the total number of SW ZOCs considered in this analysis is 4,929 (4,899 that automatically delineated plus 30 that were manually delineated).

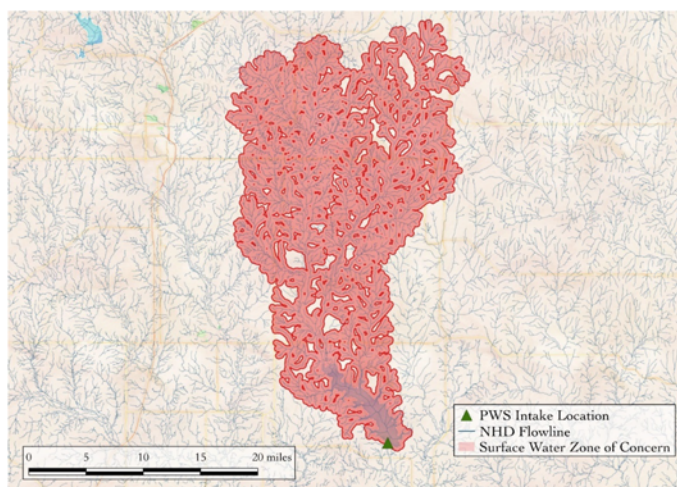


Figure 2. Example of a Surface Water Zone of Concern

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Guidance from U.S. EPA states that an “arbitrary fixed radius” can be used as a first approximation for a source water area delineation (U.S. EPA, 2006). Using this method, 106,816 GW ZOCs were delineated.

Groundwater (GW) ZOCs: The ZOC for each groundwater well is defined by a ½ mile radius around the well location (see Figure 3 for an example).

The SW ZOCs and GW ZOCs used in this study were defined to be conservative, meaning that they cover a large area in order to capture most releases that could have impacted water quality at the intake or wellhead. However, whether a specific release would impact water quality at the point of withdrawal depends on several factors, such as volume of material released, characteristics of the material released, size and flow of waterbody, etc. There have been large releases that have impacted utilities more than 50 miles downstream of the point of release. Conversely, small releases of certain contaminants may have no appreciable impact on water quality within one mile from the point of release.

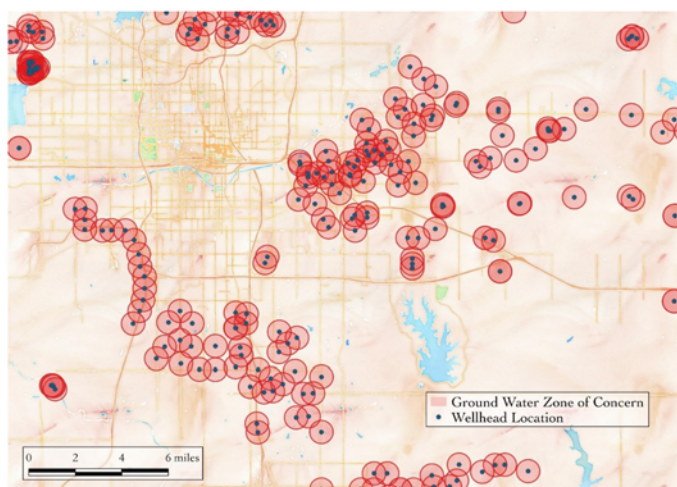


Figure 3. Example of Groundwater Zones of Concern

2.4 Identifying Significant Releases

In calendar years 2010 through 2019, a total of 281,141 releases were reported to the NRC. The following criteria were used to identify releases with the potential to significantly contaminate a source of drinking water.

- Releases in which fewer than 100 gallons of material were released were excluded from the analysis, with the exception of highly toxic materials as described in the third bullet.
- Records for which the volume of material released was not reported were evaluated for indicators that they had the potential to release a volume greater than 100 gallons. Specifically, releases with records that did not report a volume, but which met any of the following criteria, were included in this analysis:
 - Release resulting in contamination of the water supply
 - Release from a storage tank with a capacity greater than or equal to 1,000 gallons

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- Release involving a freight train or freight car
 - Release involving a barge or a tanker
 - Release resulting in a closed rail track or waterway
 - Release resulting in property damages
- Releases of a highly toxic material were included in the analysis regardless of the amount of material released (including records for which the volume released was not reported). The materials identified in the NRC record were screened based on relative acute toxicity, and those with the lowest toxicity threshold were categorized as highly toxic materials for this analysis. The four classes of highly toxic materials identified in the NRC record include:
 - Arsenic compounds
 - Cyanide compounds
 - Pesticides, insecticides, and herbicides
 - Radionuclides
- Releases with location information sufficient to geocode the record were analyzed to determine if they fell within a ZOC for a community water system. Releases that occurred outside of a ZOC were excluded from the analysis, with the exception of 14 unique incidents that were reported to have impacted drinking water systems further than 50 miles downstream of the release location.
- Releases without location information were retained in the analysis if the volume released exceeded 100 gallons, had the potential to release more than 100 gallons for records in which the volume released was not recorded, or released a highly toxic material. However, other filters were still applied to these records, as described in the following bullet.
- Remaining records were screened to remove those with the following attributes:
 - Reports generated during drills
 - Releases that occurred outside of the U.S.
 - Releases to air
 - Releases that occurred offshore or in specific bodies of water that were verified to be unconnected to a source of drinking water
 - Releases involving materials unlikely to change water quality (e.g., sand, aggregate, steel). A complete list of materials excluded can be found in Appendix E.
 - Duplicate records
- One release not captured in the NRC record, but reported in the media, was added to the dataset for this analysis: a release of 794 kgal of oil and produced water in McKittrick, CA in 2019.

2.5 Record Review

Following the data processing steps and removal of records of releases unlikely to significantly impact a source of drinking water, the quality of the remaining records was further assessed. Due to the volume of records it was infeasible to review them all. Instead, the following methods were used to screen and identify records for further review:

- Records for releases of 2,000 gallons of material or more were reviewed. While most of these releases were confirmed, a small number were not credible and thus removed from the analysis. Reports deemed not credible generally involved volumes released greater than 1 million gallons of material that could not be verified through another source, or releases of large volumes of material rarely stored in large quantities (e.g., release of 100,000 gallons of radioactive waste).
- Records for releases in which the *Incident Description* contained words such as “neighbor” or “parked car” were reviewed. In most cases, records that contained these words or phrases

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pertained to releases that were unlikely to significantly impact sources of drinking water (e.g., a “neighbor” dumping used motor oil in a sewer or a “parked car” leaking fluids).

- Records that updated information about an incident reported under another record identifier were reviewed. If multiple NRC records pertaining to the same incident were identified, information from the multiple records was consolidated into a single NRC record.

If information in an NRC record was deemed questionable or incomplete, research was conducted to investigate the details of the incident. Information from the NRC record such as location, date, material released, and responsible party was used to search media reports for corroborating information and additional details. When available, reports from established media outlets were used to populate missing fields or correct information provided in the initial NRC report. The details of more than 200 records were corrected using information identified in the *Incident Description* field or obtained from media reports.

2.6 Limitations of the Methodology

- The analysis considers only releases reported to the NRC, with the exception of one release that was identified through media reports, as noted in Section 2.4.
- NRC reports are preliminary and in most cases the information is not reviewed or corrected by response agencies.
- The NRC record likely underrepresents the total number of releases that occur. Anecdotal information suggests that releases that are first reported to a 911 call center may not be reported to the NRC. Additionally, less obvious releases, such as combined sewer overflows, may not be reliably reported to the NRC.
- NRC reports are often incomplete and missing important information such as the location of the release, the material released, or the volume of material released.
- Assumptions were made to identify releases that had the potential to significantly impact a source of drinking water. Notably, NRC records for releases in which the reported amount of material released was less than 100 gallons were removed from the analysis, except for releases of highly toxic chemicals. In cases where the reported amount underestimated the actual amount of material released, a significant release could have been incorrectly removed from the analysis.
- The criteria used to develop ZOCs were by necessity generic. It is possible that releases significantly impacting a source of drinking water occurred outside a zone of concern. Conversely, it is also possible that releases within a zone of concern did not significantly impact the source water.

Section 3: Results and Discussion

Results from the analysis of releases that potentially impacted a source of drinking water are presented in the following subsections:

- 3.1** Provides a summary of the number and volume of releases potentially impacting source water
- 3.2** Presents the temporal occurrence of releases to water over the 10-year study period
- 3.3** Presents the geographic occurrence of releases to water
- 3.4** Presents the occurrence of releases to water involving different material categories
- 3.5** Presents the reported causes and parties responsible for releases to water
- 3.6** Presents distribution of release occurrences within SW and GW ZOCs

3.1 Occurrence of Significant Releases

The total number of releases reported to the NRC between January 1, 2010 and December 31, 2019, plus one release identified outside of the NRC record, was 281,142. After the records were processed according to the methodology described in Section 2, there were 5,806 records remaining in this analysis. The impact of the various filters in reducing the number of records is shown in **Table 3**. The filter resulting in the greatest reduction in the number of records was the “significant release” filter, which consisted of the following criteria:

- Records involving an unknown amount of material released during an incident that did not involve large volume transportation (e.g., barge or rail transport) nor result in significant impacts (e.g., closure of a waterway, contamination of the water supply). 144,497 records were removed based on this criterion.
- Records involving a known amount of material released but below the threshold of 100 gallons. 95,354 records were removed based on this criterion.
- Records reporting the release of a highly toxic material, as described in Section 2.4, were retained regardless of the amount of material released. There were 880 records involving the release of a highly toxic material that were retained even though the amount released was less than 100 gallons.

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As shown in **Table 3**, the net number of records removed under the significant release criteria was 238,971 (85%).

Table 3. Filters Applied to Identify Records for Inclusion in the Analysis

Filter Criterion	# Records Removed
Records that did not meet criteria for a significant release or involve the release of a highly toxic material	238,971 (85%)
Records of releases into bodies of water not used for drinking water	20,552 (7.3%)
Records of releases that occurred offshore	11,056 (3.9%)
Duplicate records	2,845 (1.0%)
Records that were generated during drills	993 (0.4%)
Records of releases involving materials that would not degrade water quality	549 (0.2%)
Records of releases that occurred outside of the U.S.	377 (0.1%)

Throughout this report, the term **incident** refers to a specific event that resulted in the release of at least one material, while the term **release** refers to the release of a specific material. Each **NRC record** relates to a unique **release** of a specific material. A single incident can result in multiple releases and thus generate multiple NRC records. For example, an accident involving a tanker truck that spilled fuel oil from its cargo tank, diesel fuel from its saddle tanks, and coolant from its radiator would generate three NRC records relating to this single incident. The 5,806 NRC records identified in this analysis correspond to 3,931 unique incidents, many of which resulted in multiple releases.

Of these 3,931 incidents:

- 1,111 reported precise location information
- 3,907 reported the name(s) of material(s) released
- 3,114 reported the volume(s) of material(s) released, with a total of 38,940,397 gallons
- 1,884 reported the volume of material that reached water, with a total of 36,010,550 gallons
- 3,860 reported water as the medium affected by the incident, 4 reported ballast, 31 reported land, 22 reported other, 10 reported soil, 1 reported subsurface, and 3 reported unknown
- All 3,931 incidents reported a nearby body of water that was affected

Over the 10-year study period 3,931 incidents were identified with the potential to impact a source of drinking water.

3.2 Temporal Occurrence

Figure 4 shows the occurrence of releases with the potential to impact sources of drinking water during the 10-year timeframe considered in this study. The average number of incidents per year over this period was 393 with a standard deviation of 81. The number of incidents per year ranged from 481 in 2011 to 229 in 2019 and shows a decreasing trend over the 10-year period. This same trend was observed in the complete NRC dataset (i.e., before applying the filters described in Section 2). Specifically, for the complete NRC dataset, the number of releases decreased from 27,809 in 2010 to 23,587 in 2019, and the number of releases from 2015 through 2019 was always less than 25,000.

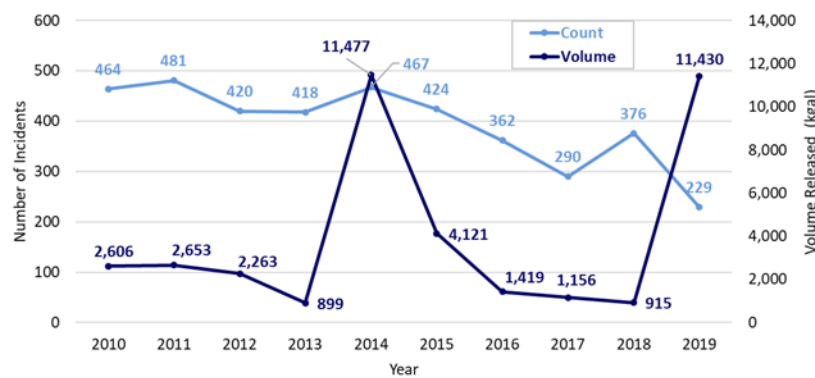


Figure 4. Annual Occurrence of Incidents Potentially Impacting Sources of Drinking Water

Figure 4 also shows the cumulative volume of material released per year over this same time period (note that 3,114 of the 3,931 incidents reported the volume released). The average cumulative volume released per year over this period is 3,894 kgal with a standard deviation of 4,105 kgal. The cumulative volume released per year ranged from 899 kgal in 2013 to 11,477 kgal in 2014. Notably, the year 2019 had the smallest number of incidents but the second largest cumulative volume released. The high cumulative volume reported in 2019 was driven by two large releases: (1) a release of 7,593 kgal of wastewater into Sugar Creek and the Withlacoochee River in Georgia (WTL, 2019) and (2) a release of 1,418 kgal of bourbon into Glenss Creek and the Kentucky River in Kentucky (Grinberg, 2019). Similarly, there was a spike in the cumulative volume released in 2014, when 11,477 kgal was released over the course of the year. The large cumulative volume released in 2014 was primarily due to a single release of 10,491 kgal of coal ash into the Dan River in North Carolina.

Large cumulative volumes released in any given year were due to one or two very large releases.

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3.3 Occurrence by Geographic Location

Of the 3,931 unique incidents considered in this analysis, 1,111 (28%) included precise latitude and longitude (lat/long) coordinates. Lat/long coordinates were estimated for an additional 2,820 incidents, using the centroid of the smallest region identified in the NRC report, most often a city or town. The precise or estimated lat/long coordinates for these incidents are mapped in **Figure 5**, which shows geographic clustering around urban areas, industrial hubs, resource extraction hubs, and transportation corridors.

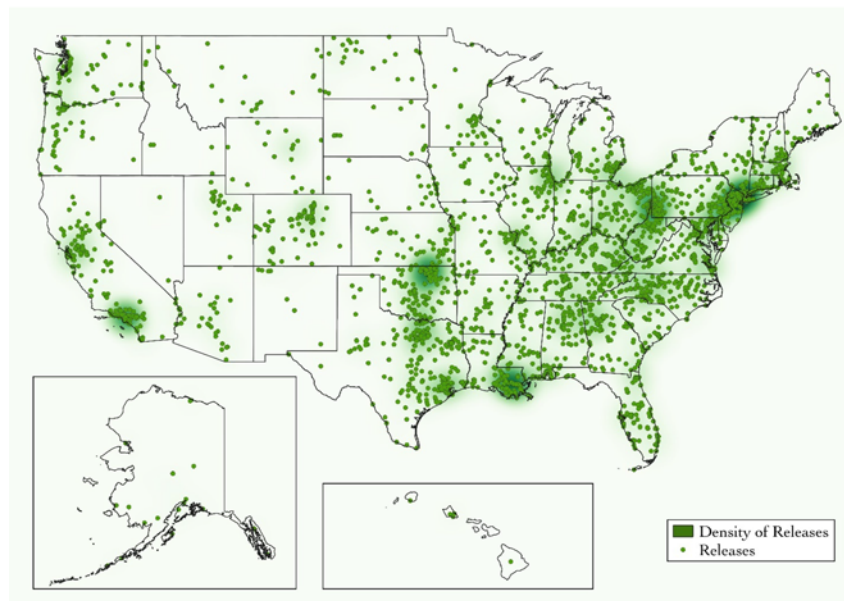


Figure 5. Geographic Distribution of Incidents Potentially Impacting Sources of Drinking Water between January 1, 2010 and December 31, 2019 (Map shows the location of 1,111 incidents with precise lat/long coordinates and 2,820 incidents with estimated lat/long coordinates)

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

Figure 6 shows the number of incidents (black circles) and cumulative volume released in kgal (blue shading and number within state boundary) to water in each state over the 10-year study period. States with the greatest number of incidents include: Texas (303), California (244), Oklahoma (236), Louisiana (205), and Pennsylvania (169).

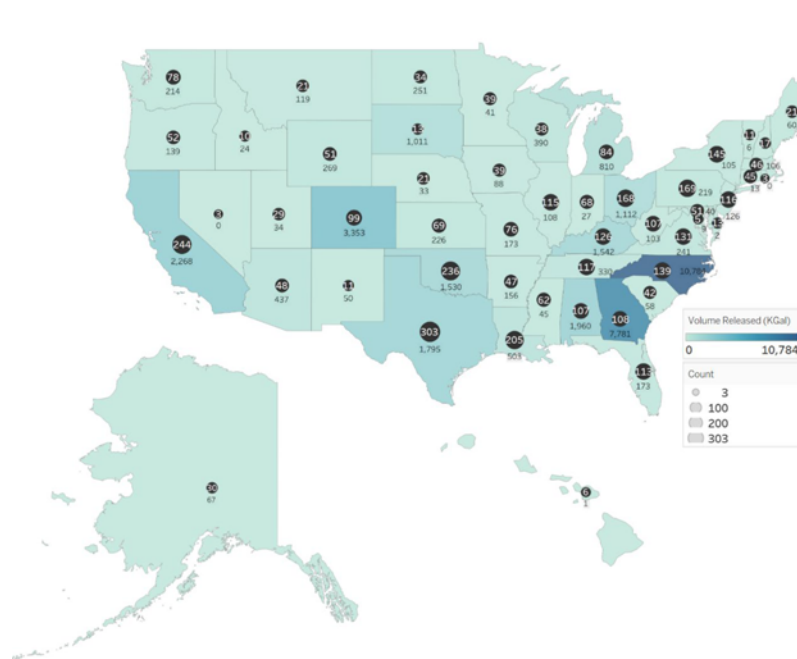


Figure 6. Total Number of Incidents and Cumulative Volume Released per State between January 1, 2010 and December 31, 2019

Figure 6 also shows the cumulative volume released in each state over the 10-year period considered in this analysis. Four states experienced a total volume released greater than 2,000 kgal: North Carolina (10,784 kgal), Georgia (7,781 kgal), Colorado (3,353 kgal), and California (2,268 kgal). The large total volumes released in these four states were driven by a single, large-volume incident in each state:

- In North Carolina, a single incident involving the release of 10,491 kgal of coal ash into the Dan River accounts for 97% of the total volume released during the study period.
- In Georgia, a single incident involving the release of 7,593 kgal of wastewater into Sugar Creek and the Withlacoochee River accounts for 98% of the total volume released during the study period.
- In Colorado, a single incident involving the release of 3,000 kgal of mine waste into Cement Creek and the Animas River accounts for 89% of the total volume released during the study period.

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- In California, a single incident involving the release of 794 kgal of oil and produced water into an unnamed body of water accounts for 35% of the total volume released during the study period.

Figure 7 shows the number of incidents released in each hydrologic unit code region (HUC-2) over the 10-year study period. A numeric ID is shown for each HUC-2 region in the white hexagon, and the number of incidents occurring in each HUC-2 region is shown in the black circle. HUC codes with the greatest number of incidents include: [3] South Atlantic-Gulf Region (542), [5] Ohio Region (531), and [2] Mid-Atlantic Region (480). As shown in **Figure 7**, eight of the HUC-2 regions extend into neighboring countries ([17], [10], [9], [4], [1], [18], [15], and [13]), however, the analysis considered only releases that occurred within the borders of the U.S. (i.e., releases occurring in Canada and Mexico were not considered in this analysis).

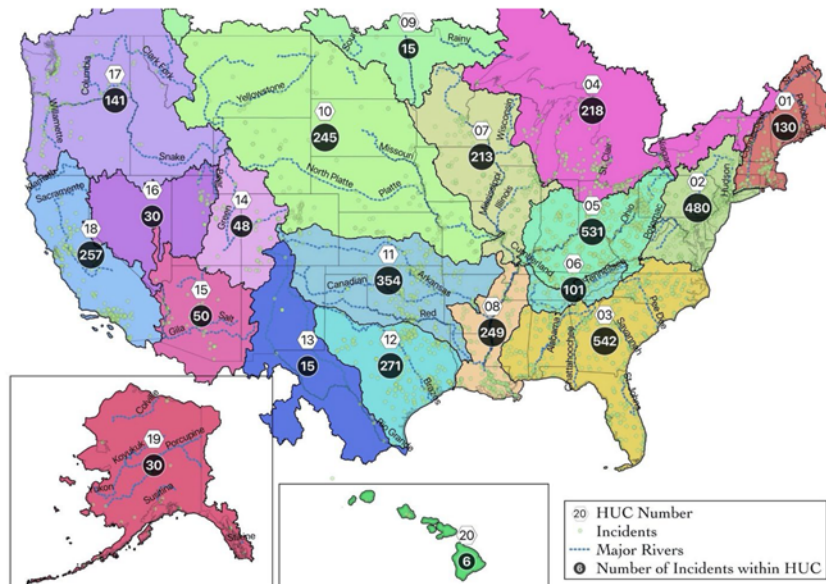


Figure 7. Total Number of Incidents per HUC-2 Region between January 1, 2010 and December 31, 2019

Table 4 shows the 25 counties across the U.S with the greatest number of incidents. The states with the most counties on this list are Louisiana with 4 counties, Texas with 3 counties, and Oklahoma with 2 counties. The four Louisiana counties are located close together in the southern metropolitan region of the state, which contains oil and gas extraction operations. The Mississippi River flows through each county and two of these counties border the Gulf of Mexico. The three Texas counties are in eastern Texas, with the adjacent counties of Tarrant and Dallas in the northeastern region and Harris County in the southeast region. These counties contain large urban areas with extensive resource extraction and industrial development. The Oklahoma counties are Osage and Carter. Osage County in northern

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

Oklahoma, is bounded by the Arkansas River, and contains resource extraction mines and oil and gas wells. Carter County is located in southern Oklahoma and contains extensive oil, gas, and mineral extraction operations.

Table 4. Twenty-five Counties with the Greatest Number of Incidents across the U.S.
(*Top Material Categories Released* includes counts for any unique material released during the incident.)

County	State	No. of Incidents	County Characteristics	Top Material Categories Released (Count)
Osage	OK	117	Population 49,000 (21/mi ²) Resource Extraction – Oil & Gas/Mines Borders the Arkansas River	Drilling Fluid (55) Crude Petroleum (40) Salt Water (40)
Los Angeles	CA	91	Population 9,818,000 (2,100/mi ²) Resource Extraction – Oil & Gas/Mines Bisected by the Los Angeles River	Refined Oil (40) Wastewater (28)
Harris	TX	37	Population 4,713,000 (2,730/mi ²) Resource Extraction – Oil & Gas/Mines San Jacinto & Buffalo Bayou Rivers	Refined Oil (25)
Cook	IL	36	Population 5,150,000 (5,450/mi ²) Des Plaines & Calumet, Rivers Borders Lake Michigan	Refined Oil (24)
Queens	NY	30	Population 2,254,000 (20,900/mi ²) JFK International Airport Borders the East River	Refined Oil (14) Anti-Freeze (6)
Natrona	WY	28	Population 80,000 (14/mi ²) Resource Extraction – Oil & Gas/Mines North Platte River	Drilling Fluid (24)
Duval	FL	24	Population 958,000 (1,200/mi ²) St. Johns River	Refined Oil (14)
Weld	CO	20	Population 324,000 (76/mi ²) Resource Extraction – Oil & Gas/Mines South Platte River	Drilling Fluid (11) Refined Oil (5) Crude Petroleum (5)
King	WA	20	Population 2,253,000 (1,000/mi ²) Resource Extraction – Mines SEA-TAC International Airport Duwamish River, Green River Borders the Puget Sound	Refined Oil (14)
Orleans	LA	19	Population 390,000 (2,000/mi ²) Resource Extraction – Oil & Gas Borders the Mississippi River, Lake Pontchartrain, and Lake Borgne	Refined Oil (15)
Carter	OK	19	Population 48,000 (58/mi ²) Resource Extraction – Oil & Gas/ Mines Washita River & Caddo Creek	Crude Petroleum (13) Drilling Fluid (11)
Mobile	AL	18	Population 413,000 (337/mi ²) Resource Extraction – Mines Mobile River & Gulf of Mexico	Refined Oil (11)
Plaquemines	LA	18	Population 23,000 (9/mi ²) Resource Extraction – Oil & Gas Mississippi River & Gulf of Mexico	Refined Oil (13)
Wayne	MI	18	Population 1,749,000 (3,000/mi ²) Borders Detroit River & Lake St. Clair	Refined Oil (14)
Dallas	TX	18	Population 2,636,000 (3,000/mi ²) Resource Extraction – Oil & Gas/ Mines Trinity River	Refined Oil (11) Wastewater (4)
New Haven	CT	17	Population 855,000 (1,000/mi ²) Resource Extraction – Mines Quinnipiac & Housatonic Rivers	Refined Oil (12)

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

County	State	No. of Incidents	County Characteristics	Top Material Categories Released (Count)
St. James	LA	17	Population 21,000 (86/mi ²) Resource Extraction – Oil & Gas Mississippi River	Refined Oil (10) Crude Petroleum (4)
Westchester	NY	17	Population 968,000 (2,000/mi ²) Borders the Hudson River and Long Island Sound	Refined Oil (10) Transformer Oil (4)
Allegheny	PA	17	Population 1,216,000 (1,700/mi ²) Major Industrial Hub Commerce transport along Ohio, Allegheny, and Monongahela Rivers	Refined Oil (13)
Tarrant	TX	17	Population 2,103,000 (2,100/mi ²) Resource Extraction – Oil & Gas W. Fork Trinity River & Clear Fork Trinity River	Refined Oil (11)
St. Louis	MO	16	Population 994,000 (1,900/mi ²) Resource Extraction – Mines St. Louis Lambert International Airport Borders the Missouri, Mississippi, & Meramec Rivers	Refined Oil (13)
Cuyahoga	OH	16	Population 1,235,000 (2,800/mi ²) Resource Extraction – Oil & Gas Cuyahoga & Rocky Rivers Borders Lake Erie	Refined Oil (13)
Shelby	TN	16	Population 937,000 (1,200/mi ²) Resource Extraction – Mines Mississippi, Wolf, and Loosahatchie Rivers	Refined Oil (14)
E. Baton Rouge	LA	15	Population 440,000 (940/mi ²) Resource Extraction – Oil & Gas Mississippi River	Refined Oil (8)
Harrison	WV	15	Population 68,000 (170/mi ²) Resource Extraction – Oil & Gas West Fork River	Refined Oil (5) Drilling Fluid (4)

Figure 8 shows the number of incidents and total volume released into “unknown or unnamed” bodies of water or into “named” bodies of water. The majority (61%) of incidents occur into an unknown or unnamed waterbody, however, most of the volume released (85%) occurs into named bodies of water. This discrepancy may be due to more complete reporting of releases involving large volumes (i.e., more information, including the name of the body of water, is reported for large releases).

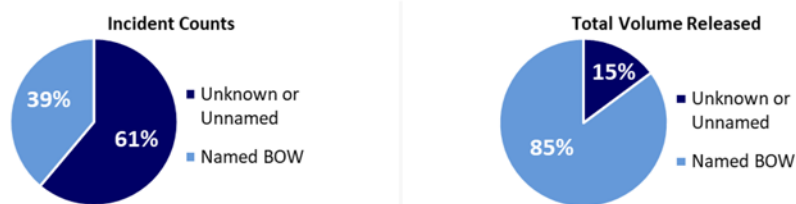


Figure 8. Incident Counts and Total Volume Released into Named Bodies of Water (BOW) and Unknown or Unnamed Bodies of Water

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

The thirty-one named waterbodies with the greatest number of incidents or largest total volume released are shown in **Figure 9**. The waterbodies with the

greatest number of incidents include the Mississippi River (139 incidents), Ohio River (77 incidents), and Hudson River (29 incidents). Figure 8 also shows the waterbodies into which the largest cumulative volumes were released: the Dan River (10,491 kgal), Withlacoochee River (7,593 kgal), and Cement Creek/Animas River (3,002 kgal). Notably, these three bodies of water were impacted by a small number of incidents: one, one, and two, respectively. Similar to the analysis of release by state, this analysis shows that a relatively small number of very large releases dominate the distribution of cumulative volumes released across waterbodies.

Regardless of the geographic boundaries used in the analysis, three characteristics are common to regions with a high occurrence of releases: (1) urban areas, (2) transportation corridors, or (3) resource extraction activity.

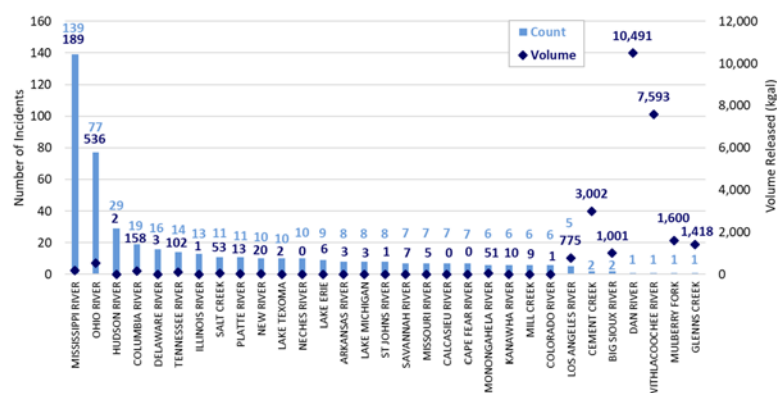
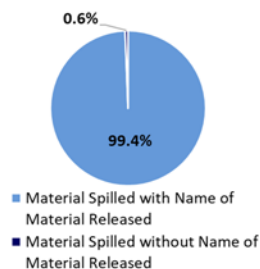


Figure 9. Thirty-one Waterbodies with the Greatest Number of Incidents or Largest Cumulative Volume Released to Water across the U.S. (A volume less than 0.5 kgal is displayed as 0 in the figure: Neches River (0.13 kgal), Cape Fear River (0.40 kgal), and Calcasieu River (0.45 kgal))

3.4 Materials Released

Of the 3,931 unique incidents considered in this analysis, 3,907 (99.4%) incidents included the name of the material(s) released. These incidents involved 840 different materials, which were grouped into the categories listed in **Table 2**. Incidents involving the release of multiple materials are counted under multiple material categories resulting in a total of 4,226 unique material releases, of which 3,250 reported the volume released and 1,954 reported the amount in water.

The frequency of releases and total volume released involving each of these material categories is shown in **Figure 10**. Materials in the Refined Oil category are the most frequently released materials by a significant margin.



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There were 2,401 (56.8%) releases of Refined Oil over the 10-year study period. Within the Refined Oil category, the most commonly released material is diesel, accounting for 45.7% of releases of Refined Oil, followed by unknown oil (10.5%), and gasoline (8.4%). Releases of gasoline accounted for the largest total volume released, 588 kgal (29.7%), within the Refined Oil category.

The next most frequently released material category was Crude Petroleum, with 398 (9.4%) releases, followed by Wastewater with 285 (6.7%) releases, Drilling Fluid 231 (5.5%), Transformer Oil 164 (3.9%), and Other Materials 116 (2.7%). The Other Materials category includes a wide range of materials, most of which are poorly characterized and were involved in three or fewer incidents. The largest volume of a named material captured under the Other Materials category was a release of 44 kgal of stearic acid into an unnamed body of water in Massachusetts in 2011.

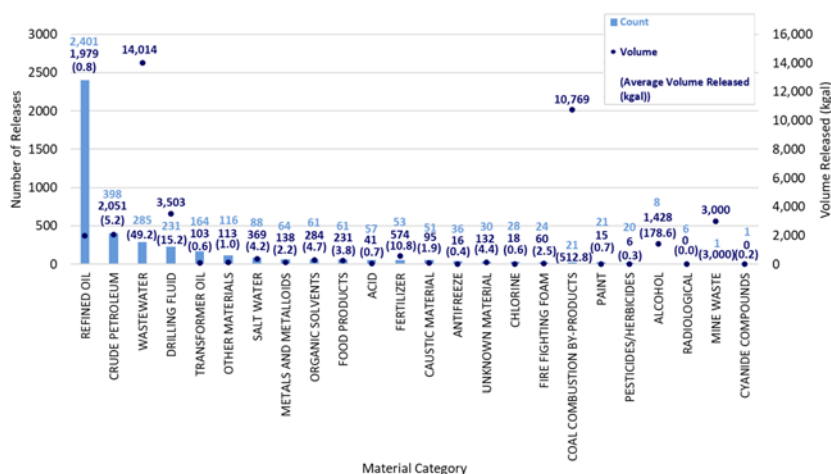


Figure 10. Total Number of Incidents and Cumulative Volume Released for each Material Category (A volume less than 0.5 kgal is displayed as 0 in the figure: Cyanide Compounds (0.21 kgal) and Radiological (no volumes reported))

There were 164 (3.9%) releases of transformer oil over the 10-year period. Transformer oil is most often released from pole mounted transformers that can contain 50 to 100 gallons of transformer oil; however, transformers can be much larger, requiring significantly larger volumes of oil (Power Partners Inc., 2009). Of the 164 releases involving transformer oil, twenty-two released volumes between 1 kgal and 1.4 kgal. These releases included discharges from vehicles carrying transformer oil, large transformers damaged during flooding, sub-station transformer discharges, and releases from storage tanks. The NRC records for releases of transformer oil were not always clear whether the oil contained PCBs. Through the 1970s, transformer oil often contained PCBs. However, the Toxic Substances Control Act banned the production of new PCBs in 1979, thus it is hypothesized that very few releases of transformer oil during the study period involved oils containing PCBs.

Figure 10 also shows the cumulative volume released for each material category over the study period. Wastewater releases accounted for 14,014 kgal (36%) of the total volume released over the 10-year

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study period (38,940 kgal), an average volume per incident of 49.2 kgal. There were 3 releases of wastewater of 1,000 kgal or more. The largest release occurred in 2019 where 7,592 kgal of wastewater were released into the Withlacoochee River in Georgia. The second largest release of wastewater occurred in 2011 when 1,600 kgal were released into Mulberry Fork in Alabama.

While refined oils are involved in the largest number of releases, wastewater accounts for the largest cumulative volume released.

Coal Combustion By-Products, which include fly ash, bottom ash, and boiler slag among other material, had the second highest cumulative volume released. Coal Combustion By-Products accounted for 10,769 kgal (27.7%) of the total volume released, an average volume per incident of 512.8 kgal. This total volume is dominated by a single release of 10,491 kgal of coal ash (specifically, fly ash) into the Dan River in North Carolina in 2014. Coal combustion by-products can present a serious threat to water quality since they contain toxic metals and metalloids including arsenic, cadmium, lead, and mercury.

Drilling Fluid had the third highest cumulative volume released at 3,503 kgal (9%), an average volume per incident of 15.2 kgal. Drilling fluids often contain brine that can increase the bromide concentration in the source water. Some community water systems have attributed increases in the concentration of brominated disinfection by-products to contamination from drilling fluids (States et al, 2013).

Mine Waste had the fourth highest total volume released at 3,000 kgal (7.7%). Because there was only one incident involving the release of mine waste in this analysis, the average volume per incident is also 3,000 kgal. Similar to coal-combustion by-products, mine waste may contain high concentrations of toxic metals.

Table 5 shows the number of releases that occurred within a specified range of volumes for each of the material categories. Four volume ranges were considered: less than 1 kgal; between 1 and 10 kgal; between 10 and 100 kgal; and greater than 100 kgal. With only one exception, Alcohol, most releases for each material category were less than 1 kgal, and the number of releases in each volume range decreases as volume increases. This table also illustrates that occurrence of large volume releases varies across material categories. The following material categories were involved in releases larger than 10 kgal, but less than 100 kgal (shaded yellow in the table): Caustic Material, Fire Fighting Foam, Metals and Metalloids, Other Materials, Refined Oil, Salt Water, and Transformer Oil. The following material categories were involved in releases larger than 100 kgal (shaded orange in the table): Alcohol, Coal Combustion By-products, Crude Petroleum, Drilling Fluid, Fertilizer, Food Products, Mine Waste, Organic Solvents, Unknown Material, and Wastewater.

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Table 5. Count of Releases Involving a Volume within the Indicated Range for Each Material Category (A volume released less than 0.5 kgal is displayed as 0 in the table: Cyanide Compounds (0.21 kgal) and Radiological (no volumes reported))

Material Category	No. of Releases	Total Volume Released (kgal)	Number of Releases in Volume Range					Largest Volume Released (kgal)
			Not Reported	< 1 (kgal)	1 - 10 (kgal)	10 - 100 (kgal)	> 100 (kgal)	
TOTAL	4,226	38,940	976	2,301	786	134	29	N/A
Acid	57	41	12	33	12	0	0	7
Alcohol	8	1,428	4	0	3	0	1	1,418
Antifreeze	36	16	14	17	5	0	0	4
Caustic Material	51	95	8	26	15	2	0	24
Chlorine	28	18	7	13	8	0	0	5
Coal Combustion By-Products	21	10,769	7	6	4	2	2	10,491
Crude Petroleum	398	1,257	36	260	91	9	2	794
Cyanide Compounds	1	0	0	1	0	0	0	0.21
Drilling Fluid	231	3,503	6	85	106	28	6	977
Fertilizer	53	574	13	24	13	2	1	467
Fire Fighting Foam	24	60	3	13	5	3	0	20
Food Products	61	231	13	22	22	3	1	100
Metals and Metalloids	64	138	44	13	4	3	0	80
Mine Waste	1	3,000	0	0	0	0	1	3,000
Organic Solvents	61	284	28	11	19	2	1	178
Other Materials	116	113	44	53	18	1	0	44
Paint	21	15	7	9	5	0	0	4
Pesticides/Herbicides	20	6	8	11	1	0	0	4
Radiological	6	0	6	0	0	0	0	N/A
Refined Oil	2,401	2,773	605	1,461	308	27	0	88
Salt Water	88	369	5	31	41	11	0	33
Transformer Oil	164	103	13	129	20	2	0	14
Unknown Material	30	132	23	4	1	1	1	100
Wastewater	285	14,014	70	79	85	38	13	7,592

The results in **Table 5** show that the following material categories account for 79% of the number of releases and 83% of the total volume released: Refined Oil, Crude Petroleum, Wastewater, Drilling Fluids, and Coal Combustion By-Products. To investigate the geographic distribution of releases in these categories, they were mapped in **Figures 11 - 15**. These maps show the precise and estimated lat/long coordinates as points, while the shading shows the density of release occurrence, with darker shading indicating a higher occurrence of releases.

Figure 11 shows the geographic distribution of releases of Refined Oil, indicating a widespread distribution of releases in urban areas. Regions with a high density of Petroleum Product releases

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include Western New Jersey/Eastern Pennsylvania; Western Pennsylvania/West Virginia/Eastern Ohio; Southeastern Louisiana, and Central Oklahoma/Northcentral Texas. The states with the most releases of Refined Oil include: Texas with 146 (6%), Ohio with 122 (5%), Pennsylvania with 120 (5%), and Louisiana with 120 (5%). The majority of releases in Texas occurred into drainage and collection areas (69), followed by unnamed creeks, streams, or tributaries (16). The remaining releases of Refined Oil in Texas occurred into various named creeks or rivers, with the Neches River experiencing the most (6). The majority of releases in Ohio also occurred into drainage and collection areas (48), followed by the Ohio River (22), and unnamed creeks, streams, or tributaries (16). The bodies of water impacted by the most releases of Refined Oil include: drainage and collection (932), unnamed creeks, streams, or tributaries (256), the Mississippi River (102), and the Ohio River (73). Releases occurring on the Mississippi River and Ohio River can impact adjacent and downstream states. Releases of Refined Oil into the Mississippi River occurred in Louisiana (67), Missouri (10), Illinois (5), Minnesota (5), Mississippi (5), Kentucky (3), Tennessee (3), Iowa (2), Arizona (1), and Wisconsin (1). Releases of Refined Oil into the Ohio River occurred in Ohio (22), Kentucky (16), West Virginia (14), Indiana (10), Pennsylvania (6), and Illinois (5).

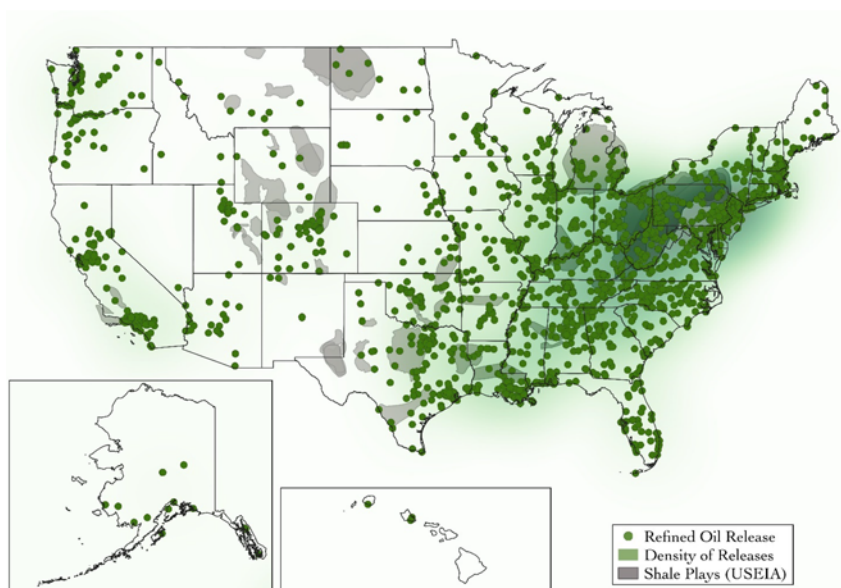


Figure 11. Geographic Distribution of Releases of Refined Oil that Occurred between January 1, 2010 and December 31, 2019

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

Figure 12 shows the geographic distribution of releases of Crude Petroleum with hot spots in Central Oklahoma/Southeast Kansas, Southeast Texas/Southern Louisiana, and West Virginia/Eastern Kentucky. There is significant overlap between these hot spots and the major shale plays that are sources of oil and natural gas. The states with the most releases of Crude Petroleum include: Oklahoma with 98 (25%), Texas with 62 (16%), Louisiana with 41 (10%), and Kansas with 28 (7%). The majority of releases in Oklahoma occurred into unnamed creeks, streams, and tributaries (33), followed by drainage and collection areas (18). The remaining releases of Crude Petroleum in Oklahoma occurred into various named creeks or rivers, with the Little Chief Creek experiencing the most (4). The majority of releases in Texas occurred into unnamed creeks, streams, or tributaries (13), followed by drainage and collection areas (6). The remaining releases of Crude Petroleum in Texas occurred into various named creeks or rivers, with Neches River and Sabine River experiencing the most (4 each). The bodies of water impacted by the most releases of Crude Petroleum include: unnamed creeks, streams, or tributaries (90), drainage and collection areas (69), unnamed reservoirs, lakes, or ponds (30), unnamed wetland area (18), and the Mississippi River (10). Releases of Crude Petroleum into the Mississippi River occurred in Louisiana (7), Illinois (2), and Mississippi (1).

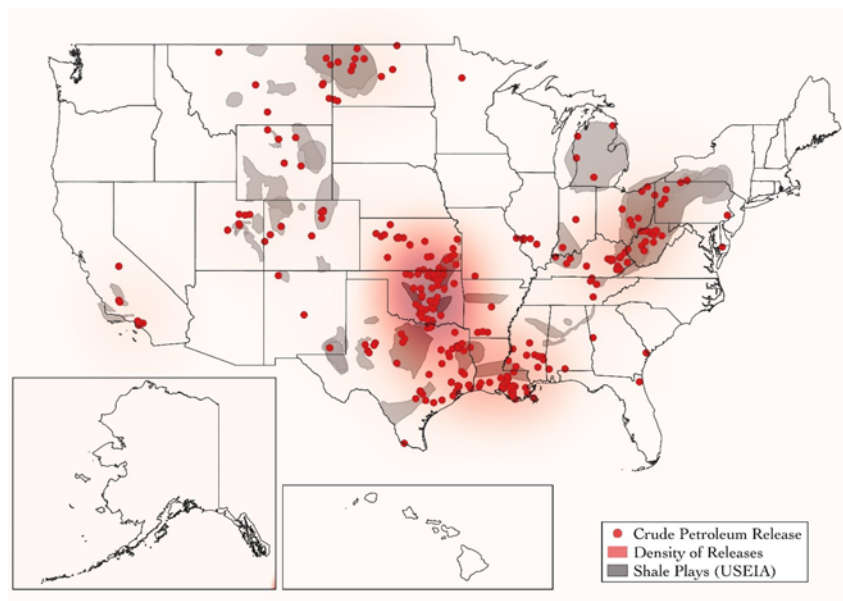


Figure 12. Geographic Distribution of Releases of Crude Petroleum that Occurred between January 1, 2010 and December 31, 2019

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

Figure 13 shows the geographic distribution of releases of Wastewater in urban areas across the U.S., similar to the distribution of releases of Refined Oil. This result is expected given that refined oils and wastewater are prevalent in urban areas. Regions with a high density of Wastewater releases include Southern California and Southwestern Pennsylvania. The states with the most releases of Wastewater include: California with 54 (19%), Virginia with 25 (9%), and Texas with 21 (7%). The majority of releases in California occurred into drainage and collection areas (36), followed by the Los Angeles River (4), the San Joaquin River (2), and Hutchinson Creek (2). The remaining releases of Wastewater in California occurred in various named creeks or rivers. The majority of releases in Virginia occurred into drainage and collection areas (14), followed by drinking water (3), Skiffes Creek (3), and the Elizabeth River (2). The bodies of water impacted by the most releases of Wastewater releases include: drainage and collection areas (101), unnamed creeks, streams, or tributaries (22), drinking water (20), and unnamed reservoirs, lakes, or ponds (8).

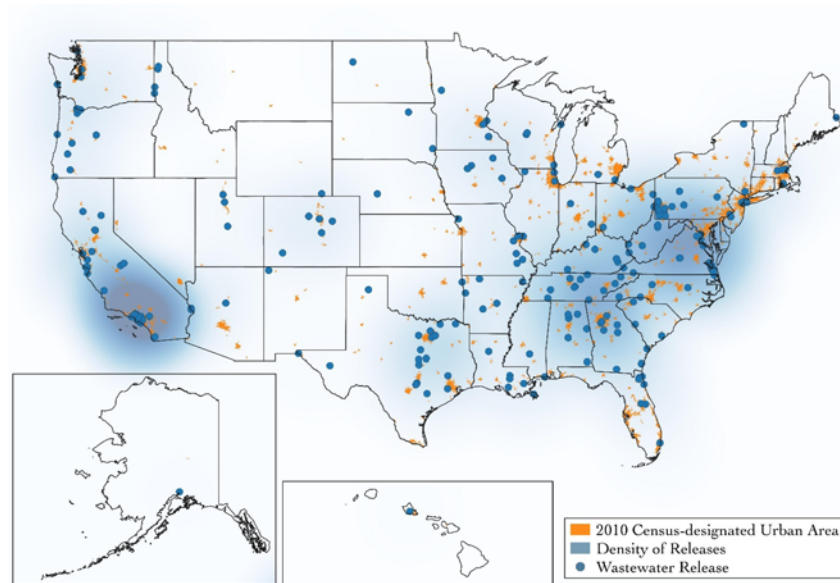


Figure 13. Geographic Distribution of Releases of Wastewater that Occurred between January 1, 2010 and December 31, 2019

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

Figure 14 shows the geographic distribution of releases of Drilling Fluid, with regions experiencing a large number of releases in Northern Oklahoma/Southern Kansas, Northeastern Texas/Southcentral Oklahoma, Central Wyoming, Northeastern North Dakota, and Northern West Virginia/Eastern Ohio/Southwestern Pennsylvania. All of these regions contain large shale plays and associated oil and gas extraction operations that use large quantities of drilling fluids. The states with the most releases of Drilling Fluid include: Oklahoma with 81 (35%), followed by Wyoming with 31 (13%), and Texas with 24 (10%). The majority of releases in Oklahoma occurred into unnamed creeks, streams, or tributaries (23), followed by a drainage or collection area (22), and unnamed reservoirs, lakes, or ponds (12). The remaining releases of Drilling Fluid in Oklahoma occurred into various named creeks or rivers, with Hay Creek experiencing the most (3). The majority of releases in Wyoming also occurred into drainage and collection areas (15), followed by Castle Creek (4). The bodies of water impacted by the most releases of Drilling Fluid include: drainage and collection areas (61), unnamed creeks, streams, or tributaries (51), unnamed reservoirs, lakes, or ponds (18), and South Platte River in Colorado (6).

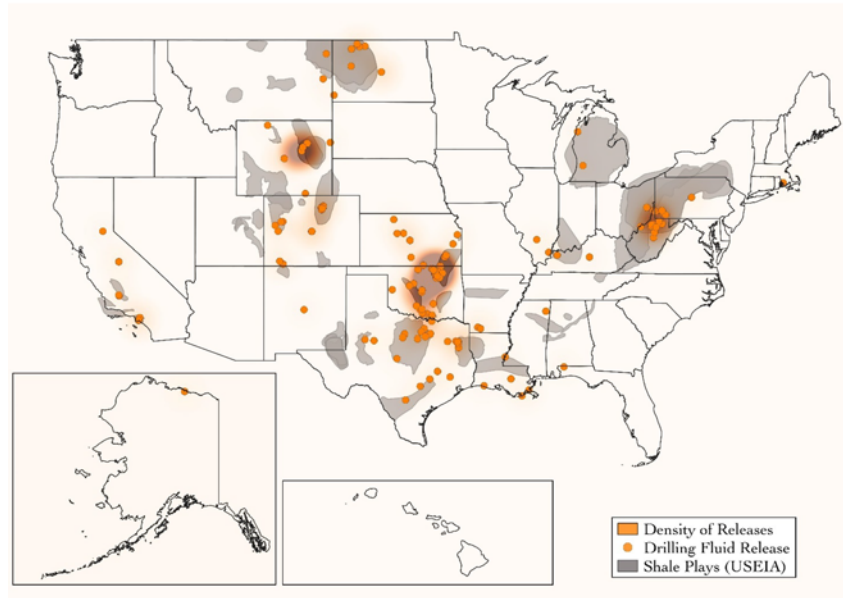


Figure 14. Geographic Distribution of Releases of Drilling Fluids that Occurred between January 1, 2010 and December 31, 2019

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Figure 15 shows the geographic distribution of releases of Coal Combustion By-Products, with a concentration of releases occurring in Western Pennsylvania/Eastern Ohio/Northern West Virginia. The states with the most releases of Coal Combustion By-Products include: Ohio with 3 (14%) and North Carolina with 2 (10%). The high number of releases in these regions is likely a result of the large number of active and closed coal-fired power plants in these same regions. The three releases in Ohio occurred into Block House Hollow, the Ohio River, and Riddles Run while the two releases in North Carolina occurred into the Dan River and the Neuse River. The bodies of water impacted by the most releases of Coal Combustion By-Products include: drainage and collection areas (2), drinking water (2), Hudson River (2) which only impacted New York, and the Dan River (1) which impacted only North Carolina.

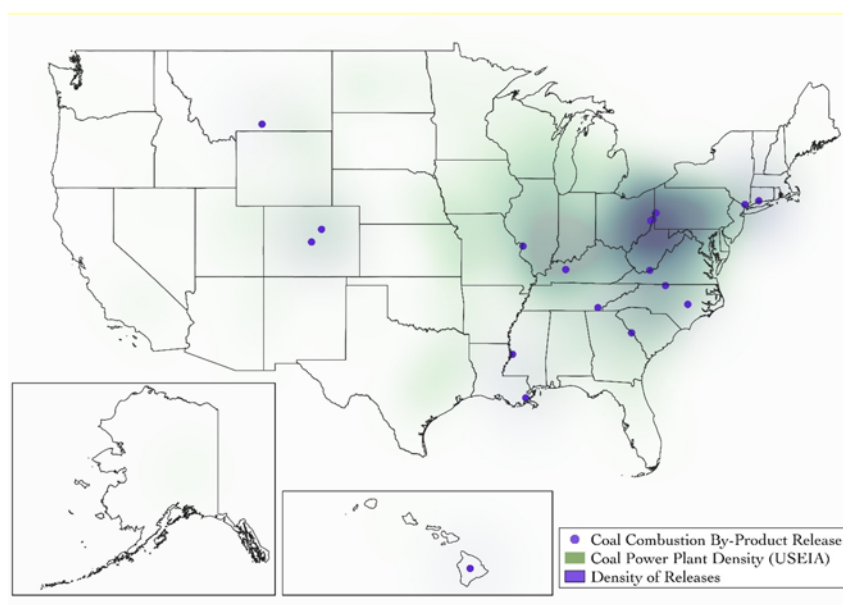


Figure 15. Geographic Distribution of Releases of Coal Combustion By-Products that Occurred between January 1, 2010 and December 31, 2019

3.5 Cause of Incidents and Responsible Parties

The NRC record includes standardized fields for recording the reported cause and responsible party of a release. The causes of releases reported to the NRC and considered in this analysis include:

- Equipment Failure: including ruptures in storage vessels and pipelines, over pressurization, and explosions
- Transportation Accident: including accidents occurring on roadways, railways, and waterbodies that involve a vehicle or vessel
- Operator Error: including failure to follow procedures for transport and transfer of materials
- Natural Phenomena: including hurricanes, flooding, and tornadoes

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- Dumping: including unpermitted discharges as well as illegal dumping by private companies and citizens
- Other: cause known but other than the standard causes listed above.
- Unknown: cause of the release unknown or not reported

All 3,931 incidents included in this analysis have information about the cause. The number of incidents and cumulative volume of releases attributed to each cause are shown in **Figure 16**. Equipment Failure was reported as the leading cause of an incident 27% (1,078), was responsible for the 49% (19,260 kgal) of the cumulative volume released, and had an average volume released per incident of 17.9 kgal. Transportation Accidents caused 13% (505) of the incidents but only 2% (820 kgal) of the cumulative volume released, and thus had a much lower average volume per incident of 1.6 kgal. Natural Phenomena caused only 5% (212) of the incidents but accounted for 5% (1,807 kgal) of the cumulative volume released, with an average volume released of 8.5 kgal.

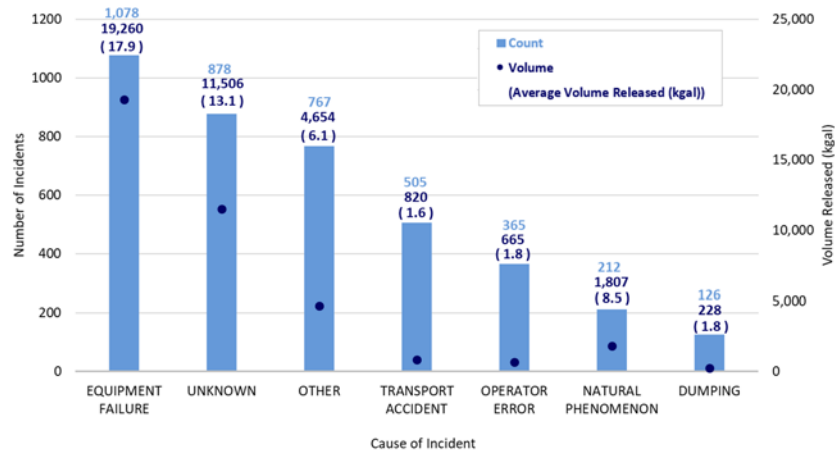


Figure 16. Total Number of Incidents and Cumulative Volume of Material Released for each Cause between January 1, 2010 and December 31, 2019

Because wastewater accounts for most of the cumulative volume released, the causes of wastewater releases were investigated. The majority of wastewater releases were caused by equipment failure (100), other causes (57), unknown causes (52), and illegal dumping of materials (29). Pipeline breaks and pump failures were the two most common types of equipment failures leading to wastewater releases.

All 3,931 incidents included in this analysis listed the responsible party using the following designations:

- Private Enterprise
- Private Citizen
- Federal Government

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- State Government
- Local Government / Public Utility (two unique NRC designations that were combined for this analysis)
- Military
- Tribe
- Other
- Unknown

Figure 17 shows the number of incidents and total volume released attributed to the above categories of responsible party. Private Enterprises was listed as the responsible party for 69% (2,712) of the total number of incidents, 87% (34,308 kgal) of the total volume released, and an average volume per incident of 12.7 kgal. Within this category Chaparral Energy, an oil and natural gas producing company in Oklahoma, was responsible for the largest number of incidents (53), which involved petroleum products and drilling fluids. Local Government / Public Utilities were responsible for 6% (236) of the incidents, 8% (3,329 kgal) of the total volume released, and an average volume per incident of 14.1 kgal. Most incidents caused by Local Government / Public Utility involved the release of wastewater from municipal wastewater systems. Private Citizens were responsible for 4% (140) of the total number of incidents, 0.15% (59 kgal) of the total volume released, and an average volume per incident of 0.4 kgal.

Private industry is the most often reported responsible party. The most common cause of a release is equipment failure.

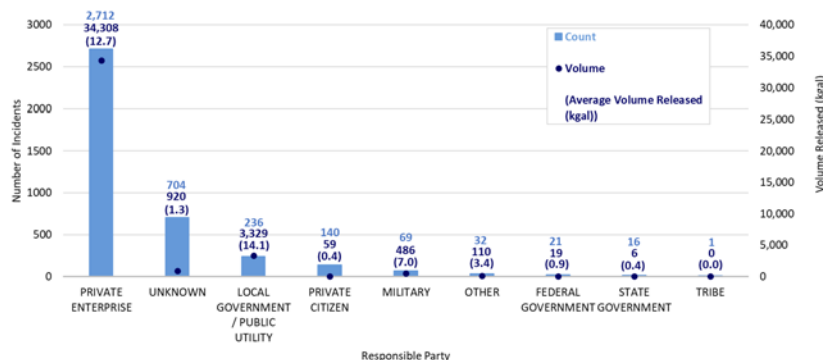


Figure 17. Total Number of Incidents and Cumulative Volume of Material Released by each Responsible Party Category between January 1, 2010 and December 31, 2019

Table 6 shows the materials most commonly released by each of the responsible party categories. Refined Oil and Crude Petroleum are the most commonly released materials for all responsible party categories except Tribes. Wastewater was a commonly released material by Local Government / Public Utilities, Military, and Tribes.

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Table 6. Most Commonly Released Materials for each Responsible Party Category

Responsible Party Category	Most Commonly Released Materials
Private Enterprise	Diesel Oil, Crude Oil, Unleaded Automotive Gasoline
Unknown	Diesel Oil, Unknown Oil, Fuel Oil, Unleaded Automotive Gasoline
Local Government / Public Utility	Wastewater, Hydraulic Oil, Transformer Oil
Military	Wastewater, Diesel Oil, Jet Fuel
Other	Diesel Oil, Crude Oil, Other Oil
Federal Government	Hydraulic Oil, Diesel Oil, Gasoline
State Government	Diesel Oil, Hydraulic Oil, Fuel Oil
Tribe	Wastewater

Figure 18 shows the number of incidents and total volume released for various types of incidents. The most common type of incident involved Other Transportation, not including Watercraft and Railroads, which are captured under separate categories. While Other Transportation accounted for a large number of incidents, 1,257 (32%), they only accounted for 1,475 kgal (4%) of the cumulative volume released, and thus had an average volume released per incident of only 1.2 kgal. The second most common type of incident were those at Fixed Facilities, which were involved in 1,081 (27%) incidents, accounted for 29,272 kgal (75%) of the cumulative volume released, and had the largest average volume released per incident of 27.1 kgal. While Pipeline breaks account for only 354 (9%) incidents, they account for the second largest total volume released 4,500 kgal (12%). The average size of a release from a pipeline break is 12.7 kgal. The NRC allows releases to be assigned to both Fixed Facilities and Storage Tanks (which are also fixed facilities). It is unclear how these two categories are differentiated, and it's likely that there is some overlap – specifically, some releases from Fixed Facilities likely came from storage tanks at those facilities.

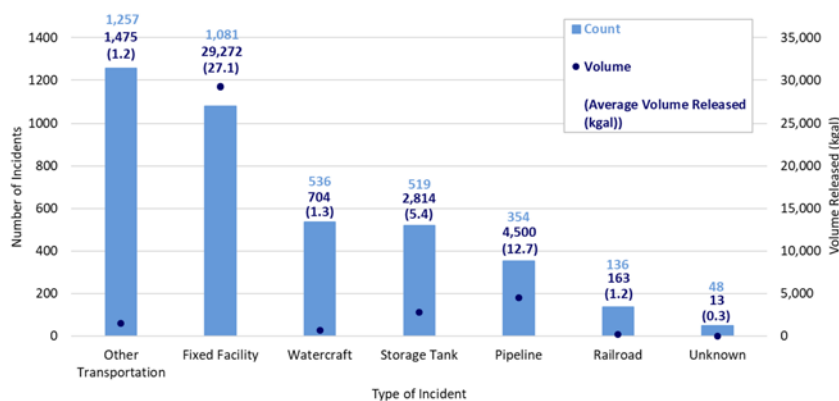


Figure 18. Total Number of Incidents and Cumulative Volume of Material Released by Type of Incident between January 1, 2010 and December 31, 2019

3.6 Occurrence of Releases by Source Water Zone of Concern

In Sections 3.1 through 3.5, the analysis considered the occurrence and attributes of releases, treating each incident as a unique data point. This section considers the occurrence of unique incidents within a

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source water ZOC for all community water system intakes and wells included in the analysis. In cases where ZOCs for multiple intakes or wells overlap, the same incident can impact multiple ZOCs. Furthermore, this analysis includes only the 1,111 incidents for which there is precise location data (i.e., lat/Long coordinates). Of these, 1,097 fell within a ZOC, as defined in Section 2.3. While the remaining 14 incidents did not fall within a ZOC, it was confirmed that the contaminant plume from the incident reached one or more downstream intakes that were more than 50 miles from the release location and prompted a response (e.g., closing an intake, deploying booms, collecting and analyzing samples). These incidents were manually reviewed and assigned to SW and/or GW ZOCs by tracing the closest NHD flowline and identifying the closest downstream ZOC(s) that may have been affected by the incident.

Figure 19 shows the number of community water systems whose source water ZOC experienced at least “n” incidents, where “n” is the number indicated on the y-axis. The figure shows a significant difference in the occurrence of incidents for SW ZOCs and GW ZOCs. Of the 4,929 SW intakes considered in this analysis, 85% (4,204) did not have an incident occur within their ZOC under the assumptions of this analysis. The remaining 725 SW intakes experienced at least one incident that potentially impacted their source of drinking water. While the distribution of incidents in SW ZOCs drops off rapidly, there were a small number of ZOCs that experienced a significantly larger number of incidents. Twenty-five SW ZOCs experienced at least 10 incidents (on average, one release per year) and three SW ZOCs experienced 22 incidents over the 10-year study period.

SW ZOCs are more likely to experience a release than are GW ZOCs: 15% for SW ZOCs vs. 0.7% for GW ZOCs.

Of the 106,816 GW wells considered in this analysis, 0.7% (700) experienced at least one incident within its ZOC under the assumptions of this analysis. The distribution of incidents in GW ZOCs drops off much more quickly compared with the distribution for SW ZOCs. The maximum number of incidents in a GW ZOC was four, experienced within only four GW ZOCs.

The data in **Figure 19** suggest that SW ZOCs are more likely to experience a release than are GW ZOCs: 15% for SW ZOCs vs. 0.7% for GW ZOCs. Also, SW ZOCs are more likely to experience a greater number of releases compared with GW ZOCs. However, this analysis does not consider the prevalence of long-term or chronic contamination of ground water aquifers.

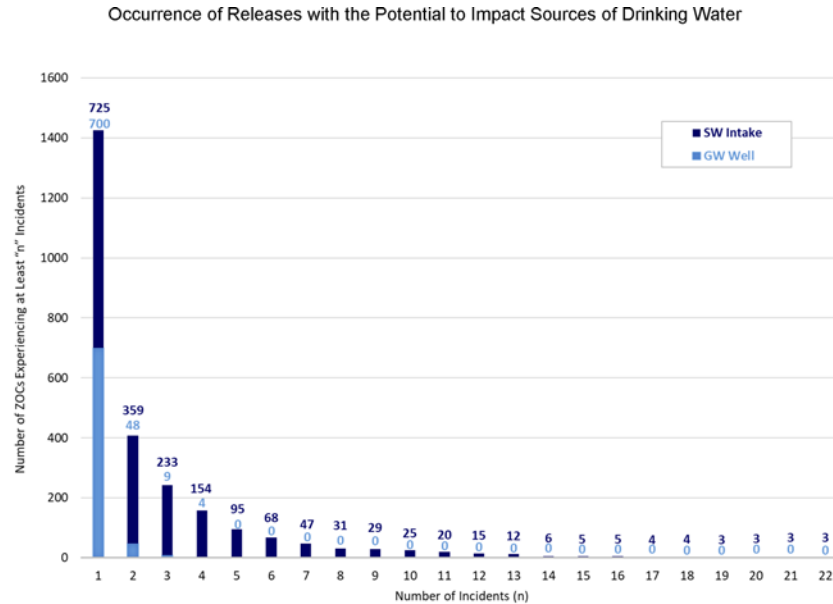


Figure 19. Frequency of Releases to Source Water ZOCs between January 1, 2010 and December 31, 2019 (total number of SW ZOCs = 4,929, total number of GW ZOCs = 106,816)

Table 7 presents attributes of the six SW ZOCs with the greatest number of releases. The three ZOCs with the greatest number of incidents are in Osage County, Oklahoma and overlap almost completely and thus experienced the same 22 incidents. Osage county has a significant oil, gas, and mineral extraction industry. The Pennsylvania ZOC with the second largest number of incidents (18) contains a large urban area with major river commerce routes. The majority of incidents in this ZOC involved Refined Oil products.

The area of the ZOCs varied by more than three orders of magnitude, which could be a factor in the number of incidents experienced in a ZOC. The areas of the SW ZOCs ranged from 0.42 square miles to 1,518 square miles, with an average area of 345 square miles. GW ZOCs used a standard 0.5-mile radius, and thus had a uniform area of 0.78 square miles. To account for the impact of area on incident occurrence, the incident count was normalized by the area of the ZOC. The normalized incident count ranged from 0.0008 to 2.36 incidents per square mile. However, large normalized incident counts can result from ZOCs with small areas. Because GW ZOCs have a small uniform area of 0.78 square miles, they have an artificially large normalized count. GW ZOCs with one incident have a normalized count of 1.28 per square mile and those with four releases have a normalized count of 5.13 per square mile.

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Table 7. Surface Water Zones of Concern that Experienced the Most Releases

ID	State	Counties within ZOC	Zone Area (Sq. Miles)	Number of Incidents	Incidents per Sq. Mile	Top Material Categories Spilled (Count)
A	OK	Osage	303	22	0.072	Drilling Brine (16)
B	OK	Osage	303	22	0.072	Drilling Brine (16)
C	OK	Osage	303	22	0.072	Drilling Brine (16)
D	PA	Allegheny Armstrong Washington	1,066	18	0.017	Refined Oil (8) Transformer Oil (4)
E	PA	Allegheny Washington	935	16	0.017	Refined Oil (8)
F	CT/ NY	Fairfield New Haven New London Westchester	193	14	0.073	Refined Oil (7)

Table 8 presents the five SW ZOCs that experienced more than one incident, and which had the largest number of incidents per square mile. Two ZOCs from Louisiana (I and J) that experienced a large number of incidents (12 and 13, respectively) also have a large number of releases per square mile (0.40 and 0.32 incidents per square mile, respectively). However, the other three zones experienced a modest number of releases (4 or 5). A commonality among the five ZOCs with the largest number of incidents per square mile is that they all have relatively small areas (3 to 41 square miles) – much smaller than the average zonal area of 345 square miles. Thus, in all five zones, it is the small zonal area that is largely responsible for the high normalized count.

Table 8. Source Water Zones of Concern that Experienced more than One Release and which have the Greatest Number of Releases per Square Mile

ID	State	Counties Impacted	Zone Area (Sq. Miles)	Number of Incidents	Incidents/sq. mile	Top Material Categories Spilled (Count)
G	PA / NJ	Warren	3	4	1.34	Refined Oil (4)
H	CA	San Mateo	12	5	0.41	Refined Oil (5)
I	LA	Jefferson Orleans Plaquemines St. Bernard	30	12	0.40	Refined Oil (7)
J	LA	Jefferson Orleans Plaquemines St. Bernard	41	13	0.32	Refined Oil (7)
K	IL	Cook	14	4	0.28	Refined Oil (2)

Figure 20 shows the geographic distribution of all incidents that impacted a ZOC. Similar to **Figure 5**, the distribution of releases within ZOCs shows a concentration of releases near major urban areas or regions with significant oil and gas extraction operations. Two areas that experienced a large number of releases are Southern Louisiana and Western Pennsylvania/Eastern Ohio. The states with the most releases impacting a ZOC are: Ohio with 207 (8%), Texas with 204 (8%), Pennsylvania with 193 (7%), and Louisiana with 162 (6%). Notably, this is a different ranking from the broader analysis of incidents by state presented in **Figure 6** in which the states with the most releases were: Texas (303), California (244), Oklahoma (236), Louisiana (205), and Pennsylvania (169). The different trends depicted in Figures

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6 and 20 indicates that there may not always be a correlation between the occurrences of releases to water and the occurrence of releases in a ZOC.

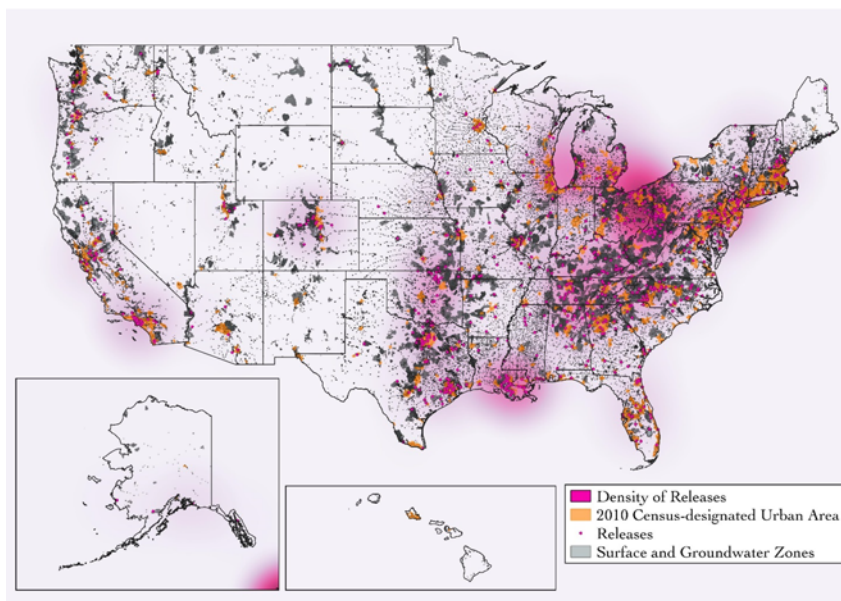


Figure 20. Geographic Distribution of Releases in SW and GW ZOCs between January 1, 2010 and December 31, 2019

Section 4: Summary and Conclusions

An analysis of releases reported to the NRC from January 1, 2010 through December 31, 2019 showed that 5,806 out of 281,142 records, or 2.1%, had the potential to impact sources of drinking water. The criteria used to identify these releases include: volume released greater than 100 gallons (or an indicator of a high volume release when the volume was not recorded), releases of highly toxic materials, and releases with location data and which fell within a ZOC or affected a nearby ZOC. There were also criteria for excluding records, such as those that were generated during drills, occurred outside of the U.S., were released to air, occurred offshore, or included materials that were unlikely to change the water quality (e.g., sand, steel, aggregate). A downward trend in the number of releases potentially impacting source water was observed between 2010 and 2019.

2.1% of releases reported to the NRC over a 10-year period had the potential to impact source water.

The 5,806 records were related to 3,931 unique incidents. Of the 3,931 unique incidents, 3,114 reported the volume released and 1,884 reported the volume released to water. The total volume released over this 10-year period was over 38,940 kgal. The volume released varied significantly from year to year, from a low of 899 kgal in 2013 to a high of 11,477 kgal in 2014. Notably the year 2019 had both the lowest number of unique incidents and the second largest cumulative volume released, which was driven by two large releases: (1) a release of 7,593 kgal of wastewater into Sugar Creek and the Withlacoochee River in Georgia and (2) a release of 1,418 kgal of bourbon into Glens Creek and the Kentucky River in Kentucky. This reflects the general trend that most releases are relatively small; 54.4% were less than 1 kgal, while a small number of very large releases are responsible for the majority of material released (0.7% released more than 100 kgal).

54.4% of releases were smaller than 1 kgal, however, 0.7% released more than 100 kgal.

Releases occurred in all 50 states and D.C. with the highest density of releases near urban areas, industrial hubs, resource extraction hubs, and transportation corridors (including rivers used for cargo transport). States with the greatest number of unique incidents include: Texas (303), California (244), Oklahoma (236), Louisiana (205), and Pennsylvania (169). There was a large range in the total volume released in each state, ranging from < 1 kgal in Rhode Island and Nevada to 10,784 kgal in North Carolina. Four states experienced a total volume released to water greater than 2,000 kgal: North Carolina (10,784 kgal), Georgia (7,781 kgal), Colorado (3,353 kgal), and California (2,268 kgal). The large total volumes released to water in these five states were the result of one or two significant incidents in each state. The Mississippi and Ohio Rivers were the two named bodies of water impacted by the greatest number of releases.

There were 840 different materials released over the study period, but the most commonly released materials by a significant margin were Refined Oil products, which were involved in 56.8% (2,402) of releases. However, the material categories responsible for the largest total volume released were: Wastewater with 14,014 kgal (36%), Coal Combustion By-products with 10,769 kgal (27.7%), Drilling Fluid with 3,503 kgal (9%), and Mine Waste with 3,000 kgal (7.7%).

The highest occurrence of releases occurs near urban areas, industrial hubs, resource extraction hubs, and transportation corridors.

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Equipment Failure was reported as the leading cause of incidents, 27% (1,078), and was responsible for 49% (19,260 kgal) of the total volume released. Transportation Accidents were another significant cause of incidents accounting for 13% (505) of the incidents but only 2% (820 kgal) of the total volume released – an average release volume of 1.62 kgal. By comparison, Natural Phenomena caused only 5% (212) of the releases but accounted for 5% (1,807 kgal) of the total volume released – a significantly larger average release volume of 8.52 kgal.

The number and volumes released within individual SW or GW ZOCs varied widely. Most SW ZOCs (85%) and GW ZOCs (99.3%) considered in this study did not experience any incidents over the 10-year study period. There were 725 SW ZOCs and 700 GW ZOCs that experienced at least one incident. Of the ZOCs that experienced more than one incident, twenty-five SW ZOCs experienced at least 10 incidents, four SW ZOCs experienced 22 unique incidents, and four GW ZOCs experienced four incidents.

The results of this analysis indicate regional trends in the risk of source water contamination. However, the absence of a release in a particular area or ZOC should not be inferred to mean that the ZOC is free from risk. Ultimately what matters is where the next significant release into water occurs and whether it impacts a water system's source water. The following section provides recommendations to help water systems understand and prepare for their unique risk profile.

Section 5: Recommendations

The findings from this study demonstrate there is a significant risk of releases into sources of drinking water at a national scale. However, the risk to a community water system will depend on their unique circumstances. To understand the relative risk of source water contamination to a community water system, it is recommended that releases into source water be considered in an all-hazards risk assessment, such as that required under America's Water Infrastructure Act (U.S. EPA, 2019a). Factors to consider when assessing the risk of releases to source water include:

- ✓ History of releases into a community water system's source water protection area (or a smaller zone of concern near the intake or wellhead)
- ✓ Land use and population in the source water protection area
- ✓ The number and capacity of resource extraction and refining operations (oil, gas, minerals, etc.) in the source water protection area
- ✓ Volume and type of industrial activity in the source water protection area
- ✓ Use of waterbody for commodity transport
- ✓ Prevalence of hazmat transport on roads, rail lines, and waterways in the source water protection area
- ✓ Prevalence of wastewater and stormwater outfalls in the source water protection area
- ✓ Prevalence of power generation facilities in the source water protection area

*Assessing
the risk*



If the results of the all-hazards risk assessment indicate that the risk of releases to source water is significant, consider actions to prepare for and mitigate that risk, such as:

- ✓ Conduct a thorough inventory of source water contamination threats and prioritize those threats to focus attention on those that present the greatest risk to a community water system
 - Take advantage of the source water provisions of Section 2018 of America's Water Infrastructure Act, which give community water systems access to Tier II chemical inventory data collected under the Emergency Planning and Community Right to Know Act (U.S. EPA, 2019b) for facilities in a source water protection area
- ✓ Share contact information with facility owners and arrange for direct notification in the event of a release from that facility
 - Ensure that notifications of releases that are reported under the Emergency Planning and Community Right to Know Act are promptly reported to community water systems that could be impacted (U.S. EPA, 2019b)
- ✓ Develop relationships with Local Emergency Planning Committees and local first responders and arrange for timely notification of releases, particularly those resulting from transportation accidents, that could impact a source water
- ✓ Identify the materials stored, used, or discharged at facilities that pose the greatest acute risk to source water
- ✓ Identify methods and laboratories that can analyze for these materials
- ✓ Evaluate the ability of treatment processes to remove or neutralize these materials
- ✓ Update emergency response plans to include procedures to respond to releases to source water
- ✓ Plan for controls such as booms or curtains that could protect a water intake from a contaminant plume

*Actions to
prepare*



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Glossary

Clean Water Act Hazardous Substances. A list of substances defined under authorities of Section 311(b)(2) of the Clean Water Act (Title 40 of the CFR, Part 116).

Community Water System. A system that provides water for human consumption through pipes or other constructed conveyances and has at least fifteen service connections or regularly serves at least twenty-five individuals, and which serves the same population year-round (as defined in SDWA section 1401(15)).

Hazardous Substance Emergency Events Surveillance. An environmental surveillance system established by ATSDR to collect and analyze information about acute releases of hazardous substances and threatened releases that result in a public health action such as an evacuation. The system was active from 1990 through 2009.

National Hydrography Dataset. A dataset maintained by the USGS that represents the water drainage network of the United States with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and stream gages.

National Response Center. The designated federal point of contact for reporting all oil, chemical, radiological, biological and etiological discharges into the environment, anywhere in the United States and its territories. The National Response Center is part of the federally established National Response System and staffed 24 hours a day by the U.S. Coast Guard.

National Toxic Substances Incidents Program. A surveillance program established by ATSDR to track the release of toxic substances, which was active between 2010 and 2018.

Toxic Release Inventory. A program created under the Emergency Planning and Community Right to Know Act that requires certain industries to file an annual report documenting releases of certain toxic chemicals that may pose a threat to human health and to the environment. Reporting is limited to a list of approximately 755 individual chemicals and 33 chemical categories.

Zone of Concern. For surface water intakes, an area that extends 50 miles upstream, ¼ mile downstream, includes all major tributaries, and includes a ¼ mile buffer inland from the waterbody area boundary. For ground water wells, an area defined by a ½ mile radius around the well location. This definition was used solely for the purposes of the study presented in this report.

Appendices

Appendix A: Fields Extracted from the NRC Reports and Used in Analysis

CALLS - Contains Report receipt and Suspected Responsible Party information	
FIELD NAME	FIELD DESCRIPTION
NRC Report Number	Unique Identifier assigned to each report (known as SEQNOS)
Call Type	Categorized Type of Call: INC = Incident, DRL = Drill
Responsible Company	Name of Suspected Responsible Company
Responsible Org Type	Organization Type of the Suspected Responsible party
INCIDENT COMMONS - Contains general information which is common to all types of Incident Reports such as location, type of incident, cause, etc.	
FIELD NAME	FIELD DESCRIPTION
Description of Incident	Detailed explanation of the incident
Type of Incident	Specific type of incident being reported
Incident Cause	Cause of the incident
Incident Date Time	Date and time incident occurred, was discovered or planned
Incident Location	Additional details about the location of the spill (e.g., river mile marker)
Location Address	Street address or intersection nearest to the incident location
Location Nearest City	City or town nearest to the incident location
Location State	State where incident occurred
Location County	County where incident occurred
Location Zip	Postal zip code where incident occurred
Lat (Deg, Min, Sec, Quad)	Degrees of Latitude for incident location
Long (Deg, Min, Sec, Quad)	Degrees of Longitude for incident location
INCIDENT DETAILS - Contains information which further describes the situation and impact of the Incident.	
FIELD NAME	FIELD DESCRIPTION
Damages	Indicates if there were any damages that occurred during the release
Waterway Corridor Closed	Indicates if any waterway traffic corridors were closed
Track Closed	Indicates if any rail tracks were closed
Medium Description	Medium affected as a result of the incident
Body of Water	Immediate body of water impacted by the incident if applicable
Water Supply Contaminated	Indicates if a drinking water source was contaminated by the release
Nearest River Mile Marker	The nearest river mile marker of the incident location if applicable
Offshore	Indicates if the incident location is offshore
INCIDENTS - Contains information specific to each type of Incident	
FIELD NAME	FIELD DESCRIPTION
Type of Fixed Object	Categorized object type
Capacity of Tank	Capacity of the storage tank
Capacity of Tank Units	Unit of measure for the storage tank capacity
MATERIAL INVOLVED - Contains information specific to each material spilled	
FIELD NAME	FIELD DESCRIPTION
CHRIS Code	Chemical Hazards Response Information System Code
CAS Number	Chemical Abstracts Service Registry Number
Amount Of Material	Amount of material released
Unit Of Measure	Unit of measure for amount released
Name of Material	Name of material released
Amount In Water	Amount of material that reached water
Unit of Measure Reach Water	Unit of measure for amount in water
TRAINS DETAIL - Contains information about the train(s) involved	
FIELD NAME	FIELD DESCRIPTION
Train Type	Type of train involved
VESSELS DETAIL - Contains information about sea going vessels involved with an incident	
FIELD NAME	FIELD DESCRIPTION
Vessel Type	Type of vessel involved
MOBILE DETAILS - Contains information about mobile vehicles involved with an incident	
FIELD NAME	FIELD DESCRIPTION
Hazmat Carrier	Indicates if a transport for hazardous materials

Appendix B: Rules to Standardize Names of Bodies of Water

Standardized Name	If the Body of Water name contains the following:
Mississippi River	"Mississ"
Unnamed Creek, Stream, or Tributary	"Unnamed Creek," "Unknown Creek," "Local creek," or "Unknown Tributary"
Genesee River	"Genes"
Monongahela River	"Monog," "Monon," "Mong," or "Monoag"
Schuylkill River	"Schuykill," "Schyukill," or "Schulkill"
Vermilion River	"Vermi"
Willamette River	"Wilam" or "Willam"
Passaic River	"Passaic" or "Passiac"
Tennessee River	"TN River" or "Tenn"
Allegheny River	"Alleg"
Androscoggin River	"Scog"
Delaware River	"Delaware"
Colorado River	"Colorado River"
Cuyahoga River	"Cuyahoga"
Elizabeth River	"Elizabeth River"
Acushnet River	"Acu"
Anacostia River	"Anac"
Anclote River	"Ancl"
Arkansas River	"Arka"
Brazos River	"Braz"
Withlacoochee River	"Withl"
Arthur Kill	"Arthur Kill"
Kill Van Kull	"Kill V"
Canal	"Canal"
Unnamed Groundwater Source	"Water Well", "Well Water", "Well", "Groundwater", or "Aquifer"
Unnamed Reservoir, Lake, or Pond	"Unknown Pond", "Reservoir", or "Unknown Lake"
Drainage and Collection	"Storm," "Drain," "Sewer," "Ditch", "Basin", "Runoff", or "Culvert"
Drinking Water	"City Water", "Tap Water", "Drinking Water", "Drinking Water Wells", or "Potable Water"
Unnamed Wetland Area	"Wetland," "Marsh," or "Swamp"

Appendix C: Unit Conversion Multipliers

For each unit of measure below, multiply the value reported in those units by the multiplier to convert to gallons (U.S., liquid).

- Barrels (petroleum) = 42.0
- Barrels (not petroleum) = 31.5
- Cubic Meters = 264.172
- Cubic Yards = 201.974
- Cups = 0.0625
- Drops = 0.0000132086
- Gallons = 1.0
- Liters = 0.264
- Ounces = 0.0078125
- Pints = 0.125
- Pounds = 0.12 (assuming a density of 8.345 pounds/gallon, which is the density of water)
- Quarts = 0.25
- Tablespoons = 0.00390625
- Tons = 269.0 (assuming a density of 8.345 pounds/gallon, which is the density of water)

Appendix D: Process for Preparing Spatial Data

- Generating a “best address” for records lacking latitude/longitude information:
 - Removing leading and trailing white space
 - Correcting format of address record by applying a script that matches one or more numbers, followed by a space, and followed by one or more characters
 - Reviewing the NRC fields: “Location Address”, “Location Street 1”, and “Location Street 2” for valid addresses
 - Removing any value after a decimal in zip codes and adding a leading 0 to the zip code in states whose zip codes are verified to contain leading zeros
 - Addresses were run through the 2012-2013 version of the Max Rice/Juice Analytics Excel geocoding tool and latitude & longitudes for each record with a validated “best address” were provided
- Geocoding records with latitude/longitude degrees, minutes, and seconds:
 - Deleting duplicate rows
 - Records with any missing information in the latitude/longitude degrees, minutes, or seconds were omitted from the geocoding process
 - Records with latitude degrees <18 or >72 were omitted from the geocoding process (outside of the U.S.)
 - Records with longitude degrees <66.5 or >180 were omitted from the geocoding process (outside of the U.S.)
 - Records with latitude/longitude minutes or seconds outside the range of 0-60 range were omitted from the geocoding process
 - Formulas were applied & latitude/longitude generated:
 - Latitude: $\text{degrees} + (\text{minutes}/60) + (\text{seconds}/3600)$
 - Longitude: $(\text{degrees} + (\text{minutes}/60) + (\text{seconds}/3600)) * -1$
- Latitudes & longitudes for each record were added to QGIS and clipped to the appropriate delineated zone

Appendix E: Materials Excluded from Analysis

Releases of the following materials were excluded from the analysis, however, not all examples and variations of the contaminant name are listed below.

- AMMUNITION/EXPLOSIVES
- BATTERIES AND RELATED PRODUCTS
- BENTONITE/CLAY
- COAL
- CONSTRUCTION MATERIALS
 - ROOFING SHINGLES
 - STEEL COIL
 - CEMENT/CONCRETE
 - FLORESCENT LIGHTS
 - WOOD STEPS
- DYES
- EARTH/MINERAL PRODUCTS
 - GRAVEL
 - GYPSUM
 - LIMESTONE
 - LEAVES
 - DIRT
 - ROCKS
- FOAM PRODUCTS
 - BROWN FOAM
 - FOAM BLANKET
 - BLUE DYE- FOAM MARKER
 - STYRAFOAM
- METAL AND SCRAP
 - METAL SCRAPS
 - METAL SHAVINGS
 - JUNK AND SCRAP METAL
 - OLD TIRES
 - RUST AND METALLIC SUBSTANCE
- MISCELLANEOUS WASTE
 - BAG OF TRASH
 - BURNING TIRES
 - GARBAGE/DEBRIS
 - TOILETS
- VOLATILE CHEMICALS
 - BUTANE
 - METHANE
 - CNG
 - LNG
 - NATURAL GAS
- WATER
 - CHILL WATER

Occurrence of Releases with the Potential to Impact Sources of Drinking Water

- CHLORINATED WATER
- DRINKING WATER
- CITY WATER
- GROUNDWATER
- FIRE WATER
- RAIN WATER

Senate Committee on Environment and Public Works
Hearing Entitled, “Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train Derailment and Chemical Release in East Palestine, Ohio”

March 9, 2023

Questions for the Record for Richard Harrison

Chairman Carper:

1. Can you explain ORSANCO’s role in the Ohio River Basin?

- A1. ORSANCO is the Ohio River Basin Interstate Commission that executes the monitoring, assessment, pollution abatement, and public information dissemination strategies of a collective compact signed by eight member states – Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Virginia and West Virginia – with approval by the United States Congress and participation by the federal government. Since its inception in 1948, ORSANCO has worked to improve and protect the water quality of the interstate waters from pollution and chemical contaminants in the Ohio River Basin, which includes 14 states and encompasses over 200,000 square miles of the United States.

ORSANCO was created through extensive negotiations between our member state governors. Our member states utilize ORSANCO to effectively protect the beneficial uses of the interstate waters within their geographic area of the Ohio River Basin (ORB). These beneficial uses include making sure the waters of the ORB are “available for safe and satisfactory use as public and industrial water supplies after reasonable treatment, suitable for recreational usage, capable of maintaining fish and other aquatic life, free from unsightly or malodorous nuisances due to floating solids or sludge deposits, and adaptable to such other uses as may be legitimate.” Protecting these uses is the foundation of ORSANCO’s water quality mission for the Ohio River Basin.

ORSANCO’s Compact predates the Clean Water Act by 24 years. The Clean Water Act focuses on protecting the beneficial uses of the “Waters of the United States” which is consistent with ORSANCO’s compact directive to place and maintain the interstate waters in a satisfactory condition to protect their water quality uses outlined in Article 1 of ORSANCO’s Compact. In addition, the guiding principle of the compact is that “pollution by sewage or industrial wastes originating within a signatory State shall not injuriously affect the various uses of the interstate waters” defined in the compact. ORSANCO’s role in the Ohio River Basin is therefore supportive of the Clean Water Act.

One key to ORSANCO’s success is the ability to collaborate and work efficiently with the Commission’s numerous partners and stakeholders. ORSANCO is able to complete extensive water quality programs such as source water protection; comprehensive surface water quality monitoring and assessment; aquatic life and habitat monitoring and evaluation; bacteria monitoring; and public information educational outreach work including outreach to underserved communities. No other organization in the ORB coordinates multiple state agencies, complex federal agencies across multiple regions, districts and divisions, water utilities, industry,

watershed organizations, local jurisdictions and other partners with ORSANCO's water quality focused mission. This unique approach is the vital reason we have been successful in fulfilling our mission.

2. Can you describe the Ohio River, what states it borders, how many people live within its drainage basin, and how many people receive drinking water from the River?

A2. The Ohio River is 981 miles long, starting at the confluence of the Allegheny and the Monongahela Rivers in Pittsburgh, Pennsylvania, and ending in Cairo, Illinois, where it flows into the Mississippi River. It flows through or borders six states: Illinois, Indiana, Kentucky, Ohio, Pennsylvania, and West Virginia. The widest point along the Ohio River is approximately 1 mile and the average depth of the river is 24 feet. The Ohio River supports 160 species of fish. There are 20 locks and dams on the river for flood control and navigation; 28 power generating facilities; and more than 184 million tons of cargo are transported on the Ohio River each year, with coal being the most commonly transported product. Three of the top 10 ports in the U.S. are found in the Ohio River Basin (Pittsburgh, Cincinnati, and Huntington). The Ohio River is the source of drinking water for approximately five million people. More than 30 million people live within the Ohio River Basin

3. How did the train derailment impact the Ohio River?

A3. The East Palestine Train Derailment and associated release of chemicals impacted the Ohio River because the associated spill remnants reached the Ohio River. These chemicals were first detected in the Ohio River by ORSANCO utilizing its Organics Detection System (ODS) approximately three days after the train derailment occurred in East Palestine. The spill remnants reached the Ohio River by traveling through five (5) different streams from East Palestine until it reached the Ohio River near the Pennsylvania and Ohio state border and roughly 40 miles downstream from Pittsburgh, Pennsylvania. ORSANCO's response to this question is only related to surface water quality as outlined in its compact.

Once the chemicals associated with the East Palestine event were detected on the Ohio River, a significant spill response was conducted by ORSANCO and its partners. That effort is still ongoing. ORSANCO's response has focused on volatile organic chemicals (VOC's), which are a class of chemicals that ORSANCO's ODS has the ability to detect. There are 16 ODS stations strategically positioned along (or on a major tributary to) the Ohio River. These stations host complex scientific instruments owned and maintained by ORSANCO and are operated by partner water utilities. This instrumentation can identify volatile contaminants at very low, parts per billion (ppb) levels. ORSANCO and its partners conducted intense Ohio river sampling, analysis, spill remnant characterization, coordination and communication throughout the spill response. During this time, ORSANCO's ODS served as the foundation for ORSANCO's water quality monitoring activities and was relied upon by drinking water utilities and government agencies throughout the Ohio River Basin and beyond. Companion analysis was also conducted by the Greater Cincinnati Water Works (GCWW) and used to post updates on our website available to the public.

4. What actions did ORSANCO take once it learned pollutants had entered the Ohio River?

- A4. Once ORSANCO learned the spill remnants entered the Ohio River, ORSANCO initiated its Ohio River spill emergency response plan. Downstream drinking water utilities and other partner agencies were notified about the spill remnants reaching the Ohio River. ORSANCO planned and implemented our ongoing field sampling and analytical protocols utilizing the ODS to assist with analysis. ORSANCO was able to coordinate closely with Ohio EPA, USEPA, member states, Ohio River drinking water utilities, media and numerous other partners to provide a high level of accurate information promptly. ORSANCO coordinated duplicate sampling with the Greater Cincinnati Water Works to provide confirmation for our ODS System results and to provide quality controlled data that we used for communication to the public on our website. These steps helped dispel misinformation and fears regarding public health and safety.

ORSANCO was relied upon by its partners and stakeholders to coordinate the sampling, analysis and communication for East Palestine Train Derailment spill remnant chemicals that reached the Ohio River. ORSANCO's response focused on volatile organic chemicals that were spilled from the train derailment. ORSANCO was able to also provide significant public information related to sample results and also developed a map component of sample locations that was updated as new results became available. ORSANCO was able to run our time of travel model to assist us with projecting where the leading edge of the spill remnants were on a daily basis. Model results helped guide ORSANCO's supplemental sampling to monitor the spill movement for over 600 miles within the Ohio River until it dissipated to the point where we were confident it was not detectable.

ORSANCO worked closely with its partners to inform them of sample results and locations sampled to make sure ORSANCO's response activities met their needs. ORSANCO is continuing to monitor the chemicals detected in the spill remnants and to communicate results to our partners for as long as required by our partners.

5. What risk did the pollution plume pose to drinking water utilities along the Ohio River?

- A5. Based upon ORSANCO's ODS and special sampling data analysis results and the Agency for Toxic Substances and Disease Registry health screen levels for n-butyl-acrylate; 2-Ethylhexyl-acrylate; and 2-ethyl-hexanol, ORSANCO and its partners were able to conclude that there were no Ohio River detections at any levels for these chemicals approaching a level to provide a concern to public health.

a. Was the risk equal for all drinking water utilities?

- A5a. The chemical concentrations detected by ORSANCO through this response were all at very low levels that did not approach a level that would provide a concern to public health. However, there were different potential impacts from the spill for the different Ohio River drinking water utilities. Ohio River drinking water utilities that were located in Pennsylvania above Little Beaver Creek would not see the spill remnants in their raw water due to their intakes being upstream of the spill. Also, the Ohio River flow increases as it moves downriver from its origin near Pittsburgh, PA to its terminus at the Mississippi River. The chemicals did dilute significantly as the remnants moved down river. Therefore, chemical concentrations did

decrease to below quantification levels as the spill remnants moved downstream from Little Beaver Creek.

6. Were there any other contaminants besides butyl acrylate in the plume of pollution along the Ohio River?

A6. In addition to N-butyl-acrylate, both 2-ethyl-hexanol and 2-ethylhexyl-acrylate were detected through ORSANCO's initial sampling efforts from the Little Beaver Creek, the tributary below East Palestine that feeds the Ohio River near the Ohio and Pennsylvania state border. This initial sampling provided critical confirmation of our initial ODS detection and provided us with confirmation that we were dealing with the spill remnants from the East Palestine Train Derailment because Little Beaver Creek is a downstream tributary below East Palestine. ORSANCO's ODS has the capability to detect 1000's of VOC chemicals that have not been detected during this event. ORSANCO's monitoring and response focused on the volatile organic chemicals detected through its ODS.

7. In the aftermath of the train derailment, many people in the Ohio River watershed worried about their drinking water, even in communities upstream from the Ohio. Can you explain why communities upstream and along tributaries had no reason to worry about the pollution from the train derailment?

A7. A water drainage basin is a geographical area of land where all flowing surface water converges to a single body of water. For the Ohio River Basin, that body of water is the Ohio River. For the East Palestine Train Derailment chemical spill, water flowed downstream or downhill from East Palestine, through 5 streams to the Ohio River near the Pennsylvania and Ohio state border. Since tributaries of the Ohio River flow down gradient or downhill into the Ohio River, water would not flow upwards from the Ohio River into streams with higher elevations.

8. Did all of the drinking water utilities affected by the plume have the appropriate technology and resources to treat the chemicals in the plume?

A8. The member state drinking water agencies or the Ohio River drinking water utilities would be the appropriate respondent to this question.

9. How often does your agency respond to environmental spills in general? Of this magnitude?

A9. ORSANCO's technical staff works on a 24/7 basis to review hundreds of spill reports annually that are provided by the United States Coast Guard National Response Center. Most of these reports do not require detailed response from ORSANCO. However, we do have several spills a year that require some level of response including supplemental sampling and monitoring efforts as well as enhanced communication and engagement by ORSANCO with emergency response agencies or other partners. Spills of this magnitude are rare.

10. What resources does your agency have at its disposal to respond to environmental impacts to the Ohio River?

A10. ORSANCO has a small and efficient team of professional employees, assistance from numerous partners such as member state agencies, federal partner agencies, drinking water partners and other partner agencies to help respond to environmental impacts along the Ohio River. It also relies heavily on its Organics Detection System and other monitoring programs to provide the scientific information necessary to enhance our response efforts.

11. Do you feel you have sufficient resources to properly protect the Ohio River?

A11. Although ORSANCO has significant funding challenges, we do currently have the basic resources needed to help protect the Ohio River and provide general monitoring and assessment services to our partners. We also rely heavily upon our partner resources during emergencies such as the East Palestine Train Derailment Chemical Spill event. Additional funding and monitoring resources would be necessary to enhance our ability to protect the Ohio River water quality. Had the East Palestine Train Derailment chemical spill occurred during a different time, such as during ORSANCO's significant efforts to respond to the Ohio River Algal Blooms that occurred in 2015 and 2019 or during another spill event, we would have significant challenges due to limited resources.

a. Do state agencies have sufficient resources to protect the tributaries into the Ohio River?

A11a. This is a question best answered by state agencies.

12. If the Ohio River Basin received additional resources, whether funding, legal authorities, staff, or technology, how would it shift your organization's ability to respond or prepare for environmental emergencies/risks?

A12. Additional resources would significantly enhance our ability to prepare for and respond to emergencies/risks. ORSANCO would be able to update and maintain existing equipment as well as expand the Organics Detection System to other drinking water utilities on the Ohio River and its major tributaries such as the Allegheny River and the Monongahela Rivers, which are major head waters leading into the Ohio River. These are incredible industrial corridors with many drinking water utilities that utilize these rivers for their drinking water supply. Additionally, ORSANCO would have staffing beyond current barebone levels to help enhance our response to emergencies. ORSANCO would also be able to engage further in emergency management planning and would also be able to more fully develop an Ohio River Basin Emergency Response planning team. We currently work with each individual Emergency Management team along the different areas of the Ohio River. A more holistic approach would provide great value to our drinking water utilities and their customers.

13. How would additional funding shift the ability of state agencies to protect the Ohio River Basin?

A13. ORSANCO's member states face the same resource challenges that ORSANCO does. They receive Federal Clean Water Act funding at 2010 levels. Approximately 40% of the 275,000 miles of assessed rivers and streams within the Ohio River Basin are impaired for certain requirements of the Clean Water Act. Additional funding would have a very profound impact on our member state agencies and their ability to protect the Ohio River Basin.

14. What is still unknown at this time?

A14. It is unknown how long the onsite cleanup efforts will take at East Palestine and therefore how long ORSANCO will need to continue to monitor for any additional spill remnants. ORSANCO is still gaining information from the on scene Norfolk Southern monitoring that is being required by USEPA and Ohio EPA. Final results from soil sampling for Dioxins and SVOC's are still being developed and this along with air modeling and other efforts will help confirm that there was minimal if any health risk associated with these types of chemicals to the Ohio River.

15. Climate change and the increasing frequency of natural disasters and extreme weather events threaten the ability of utilities to maintain normal operations.

a. How is ORSANCO using federal resources to increase its resiliency to climate events?

A15a. Federal resources help fund ORSANCO's water quality programs. The data generated through these programs helps provide critical chemical trend information that helps us to understand how climate change and related water flow impacts the uses of the Ohio River Basin interstate waters. ORSANCO provides its data to our numerous partners to help facilitate their efforts to build resiliency to climate events. ORSANCO also takes into account climate change when programs are developed such as ORSANCO's Harmful Algal Bloom (HAB) monitoring and response program. HAB's occur more frequently after very wet springs and drought like conditions that may occur in the summers/fall.

b. How does ORSANCO assist water utilities, especially those that are small or operating with limited resources, in increasing resiliency and preparing for threats from natural or manmade causes?

A15b. ORSANCO's successful response to the East Palestine Train Derailment chemical spill is an excellent example of how ORSANCO assists water utilities, especially those that are small or operated with limited resiliency to prepare natural or manmade threats. ORSANCO's talented staff, incredible partners and our spill monitoring and response planning provides great support for these water utilities. Also, ORSANCO includes them in our planning process and when we are successful in securing more resources, they will help guide our utilization of these resources.

Senator CARPER. Mr. Harrison, our thanks to you and everyone at ORSANCO for your testimony today and for being with us. Stay on it, please.

Eric Brewer, welcome. I understand you serve as the Director and Chief of Hazardous Materials Response for the Beaver County Department of Emergency Services, not that far from East Palestine. Senator Capito has already mentioned and given a shoutout to the first responders who have turned out.

As a former Governor who has spent a lot of time with disasters of our own in the State of Delaware, we know how important the work of the first responders are. We are grateful for their service and sacrifice. Thank you. Please convey our gratitude.

With that, you are recognized. Make your statement. Thanks.

STATEMENT OF ERIC BREWER, DIRECTOR AND CHIEF OF HAZARDOUS MATERIALS RESPONSE, BEAVER COUNTY DEPARTMENT OF EMERGENCY SERVICES

Mr. BREWER. Thank you. Thank you for the opportunity to speak before you in reference to the emergency in East Palestine that is directly affecting the residents of Beaver County, Pennsylvania. This derailment occurred just under 1,000 feet from the Pennsylvania-Ohio line.

I am Eric Brewer, Director of Emergency Services for Beaver County. I am the appointed Emergency Management Coordinator as well as the Chief of the Hazardous Materials Response Team. I have been with the department for 28 years.

I am speaking as a member of the community as well as a first responder who was on scene the night of the derailment. My family has been in Beaver County for over 100 years. I was born, raised, and continue to reside there. I am part of the community.

I am not an expert on air quality, water quality, or railcars.

Beaver County is located in southwest Pennsylvania, approximately 20 miles northwest of the city of Pittsburgh. On Friday, February 3d, at about 9:15 p.m., I was contacted by the Emergency Management Director of Columbiana County in Ohio. She was enroute to a train derailment near the county line and requested mutual aid from the Beaver County Haz-Mat Team. Eighteen fire departments from Beaver County also responded to assist. We arrived at the command post about 10:15, which was set up at the Leake Oil gas station. On arrival, there was active fire among several rail cars.

Our mission was to obtain the train consist and start to research the contents of the tank cars. Norfolk Southern hazmat personnel and contractors arrived on scene shortly after 11 p.m. At around midnight, after research of the contents, it was decided to shut down fire operations and move firefighters out of the immediate area and to let the tank cars burn. This is not an unusual decision.

This decision was made primarily by Norfolk Southern Hazmat Coordinator, as well as their contractor. Based on that initial information, we decided to initiate a one-mile shelter in place from an intersection just east of Leake Oil. This put the one-mile radius just into Beaver County. That fire eventually burned out Sunday morning.

Sunday evening, we received a call from Columbiana County EMA advising us that the railroad officials were concerned about one of the tank cars starting to heat up, there was a possibility of explosion and we should consider a one-mile evacuation. Ohio officials notified us that the one-mile radius would now be from the Leake Oil address. This would add additional residents from Beaver County in the one-mile evacuation zone. Darlington Township officials went door-to-door, as well as using a mass notification system to advise the residents of the one-mile recommended evacuation. It was stressed that this was a recommendation, as we cannot force residents from their homes.

Social media posts began to circulate, stating that arrests would be made if people refused to leave during the evacuation. Let me be clear: this was not the case in Pennsylvania, as this was not a mandatory evacuation.

Monday morning, we assembled at the Emergency Operations Center in East Palestine. We learned that Norfolk Southern wanted to do a controlled detonation of the tank car in question. We were assured this was the safest way to mitigate the problem. During one of those planning meetings, we learned from Norfolk Southern that they now wanted to do the controlled detonation on five of the tank cars, rather than just the one.

This changed the entire plan, as it would now impact a much larger area. I think this confusion was probably a result of a lack of communication from Norfolk Southern, a fact that they weren't present during these planning meetings.

The Governors of Ohio and Pennsylvania made it clear to Norfolk Southern that they needed to communicate better. After more planning, the controlled detonation eventually occurred around 4:40 p.m.

Most of the area of concern in Beaver County is rural and uses well water. There is no municipal water system in that area. Since the Monday of the controlled detonations, we have fielded thousands of calls from concerned citizens wanting to know if they can drink the water, feed their livestock, and if the air is good.

I continue to get asked about how prepared areas are for a train derailment. Emergency management consists of several phases, and one of those is preparedness. The goal of preparedness is to lessen the impact of a disaster, not prevent it.

As Senator Vance said, there will continue to be disasters. However, we can lessen the impact through preparedness, although it should not take an emergency such as this. I hope this is an impetus for better support of emergency management programs. Most emergency management programs across the Country have outdated laws, are underfunded, and understaffed.

In closing, this was a train wreck. There was not a script for this. There wasn't a binder for me labeled "train wreck." Everyone needs to know we did the best we could with the information we had. In the end, no responders were killed or injured during response.

My message has been consistent. I want the residents and first responders of Beaver County to be treated the same as those in East Palestine. The cost of this emergency should not be a burden to the taxpayers of Beaver County, nor any of the local municipalities.

Thank you.

[The prepared statement of Mr. Brewer follows:]

Eric J. Brewer
Director of Emergency Services for Beaver County
U.S. Senate Committee on Environment and Public Works
March 9, 2023

Thank you for the opportunity to speak before you in reference to the current emergency in East Palestine, Ohio that is directly affecting the residents of Beaver County, Pennsylvania. This derailment occurred under 1000 feet from the Pennsylvania/Ohio border in East Palestine, Columbiana County, Ohio.

I am Eric Brewer, Director of Emergency Services for Beaver County. I am the appointed Emergency Management Coordinator for Beaver County as well as the Chief of the Beaver County Hazardous Materials Response Team. I have been with the Department of Emergency Services for 28 years, the last seven as the Director. I obtained Professional level Certification as an Emergency Manager through the Pennsylvania Emergency Management Agency and I am certified as a Hazardous Materials Incident Commander through the Pro Board accreditation process. I recently retired from the Federal Government's National Disaster Medical System where I served as a medical specialist. This team responded to disasters and large planned events throughout the world.

I am speaking as a member of the community as well as a first responder who was on scene the night of the derailment. The week following I spent at the Emergency Operations Center in East Palestine and continue to go there for meetings and updates. I consider myself the typical Western Pennsylvanian; blue collar, hardworking, son of a steel worker, who has worked hard to get where I am today. My family has been in Beaver County for over 100 years. I was born and raised here and continue to reside here. I am part of the community.

I am not an expert on air quality, water quality, health effects or rail cars.

Beaver County is located in southwest Pennsylvania approximately twenty miles northwest of the city of Pittsburgh. The County is bordered on the west by the States of Ohio and the panhandle of West Virginia; the south by Washington County; the east by Allegheny and Butler counties; and the north by Lawrence County. The predominate feature of the County is the Ohio River which enters from the southeast and flows to the center of the county before turning southwest and exiting the state to form the boundary between Ohio and West Virginia. The remainder of the County is characterized by gently rolling foothills and valleys of the Appalachian Mountain Range. Beaver County is comprised of 2 incorporated, third class cities (Aliquippa and Beaver Falls), and 52 boroughs and townships.

Beaver County is home to the Beaver Valley Nuclear Power Station, the first commercial, central-generation nuclear energy station in the United States. Also operations began in November 2022 at Shell Petrochemicals which is an ethylene cracker plant in Potter Township, Beaver County.

Beaver County has had its share of disasters. On September 8, 1994, US Air Flight 427 crashed in Hopewell Township, Beaver County killing all 132 crew and passengers on board. This prompted one of the longest investigations in the history of the NTSB. On October 20, 2006 a Norfolk Southern freight train derailed in New Brighton Borough, Beaver County. The train contained 86 cars of ethanol, of which 24 cars either derailed, were damaged, or were leaking. A fire began and it was determined the safest option would be to allow the fire to burn itself out. The fire continued for a few days prompting an evacuation of approximately 100 people from their homes.

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Director of Emergency Services for Beaver County
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On Friday, February 3, 2023, at approximately 9:15pm I was contacted by the Emergency Management (EMA) Director of Columbiana County. She said she was enroute to a reported train derailment near the county line and requested mutual aid from the Beaver County Haz-Mat Team. A few minutes later their Director called me back and requested our foam unit as they had a major derailment with multiple rail cars on fire. I notified our team that we would be responding with a full response as mutual aid to Columbiana County for a train derailment. Beaver County Fire Departments were also requested to assist with water so approximately 18 departments from Beaver County responded mutual aid with tankers to supply water. We (hazmat) arrived at the command post around 10:15pm which was set up at the Leake Oil gas station on Taggart Road. On our arrival there was active fire among several rail cars. As the mutual aid hazmat response team our mission is to assist the primary hazmat response team. The primary focus was to obtain the train consist and start to research the contents of the tank cars and other cargo. As more agency's showed up the command post was established in a garage on the Leake Oil property. Norfolk Southern hazmat personnel arrived on scene after 11:00pm and their hazmat contractor arrived shortly after. At approximately 12:00am, after research of the contents it was decided to shut down fire suppression operations and move all firefighters out of the immediate area and to let the tank cars continue to burn. This is not an unusual decision. The last derailment I was on the tank cars burned for a few days. This decision was primarily the suggestion of the Norfolk Southern Hazmat Coordinator as well as their contractor from SPSI. The command post was also relocated to the East Palestine Fire Department. Based on the initial information it was decided to initiate a 1-mile shelter in place from an area just east of Leake Oil. This put the 1-mile radius barely into Beaver County, it did not appear there were any residents affected by this 1-mile radius. The fire eventually burned out early Sunday morning.

Sunday evening we received a call from Columbiana County EMA and advised us that railroad officials were concerned about one of the tank cars starting to "heat up" and if the temperature reached a certain point there was a possibility of detonation and we should consider 1-mile evacuation due to the possibility of explosion. Ohio officials also notified us that the official 1-mile radius would now be from the Leake Oil address. This would add additional residents from Beaver County in the 1-mile evacuation zone. We contacted the Darlington Twp Emergency Management Coordinator to advise the residents in his area of the 1-mile "recommended evacuation". It was stressed that this was "recommended" as we cannot force residents out of their houses in accordance with Pennsylvania Title 35 in regards to Health and Safety. Darlington officials went door to door to advise residents of the recommended evacuation. We also used mass notification systems as well as IPAWS to alert the public. There were social media posts about arresting people who would not leave during the evacuation. Let me be clear, this was not the case in Pennsylvania as this was a recommended evacuation and not a mandatory evacuation.

Monday morning we assembled at the Emergency Operations Center that was set up at the East Palestine Elementary School with several other agencies. We learned that Norfolk Southern wanted to do a controlled detonation of the tank car in question. We were assured this was the safest way to take care of the railcar that was causing the problem. This was to occur around the noon time frame on Monday. When we were in one of the planning meetings we learned from Norfolk Southern officials that they now wanted to do the controlled detonation

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on 5 of the tank cars rather than just the one that everyone was thinking. This changed the entire plan because it was going to be a bigger impact to the area. This confusion was because Norfolk Southern officials did not communicate and were not in the room when the planning process was happening. The Ohio Governor was present in the room and the Pennsylvania Governor was on a speaker phone during the talks when this confusion happened. Both Governors made it clear to Norfolk Southern that they needed to communicate better during the whole process. After more planning and meetings the controlled detonation eventually occurred around 4:40pm.

Most of the area of concern in Beaver County, Pennsylvania uses wells for their main source of water as this is a rural area and there is no municipal water system in that area of the county. Since the Monday of the controlled detonations we have fielded thousands of calls from concerned citizens wanting to know if they can drink the well water, feed their livestock and if the air is good to breath. These calls were referred to the PA DEP or the US EPA as we are not the professionals on this matter. We continue to field calls from concerned citizens and attempt to help them with whatever information we can get them.

I continue to get asked, as well as many other emergency managers, about how prepared areas are for a train derailment. Emergency Management consists of Prevention, Mitigation, Preparedness, Response and Recovery. I'll focus on one of those phases, Preparedness. The goal of preparedness is to lessen the impact of a disaster, not prevent it. There will continue to be disasters and there will be losses in a disaster however we can lessen the impact through preparedness. Although it should not take an emergency such as this, I hope this is an impetus for better support of Emergency Management Programs. Most Emergency Management systems across the country have outdated laws, are underfunded, understaffed and in some areas are non-existent until a disaster happens. This needs corrected at all levels of government. Hiding an Emergency Management program in a fire department or sheriff department, in my opinion, are outdated.

In closing, this was a train wreck, there is no script for this. There was not a binder that I can reach for labeled "train wreck". I have one for floods, winter storms, radiological emergencies, etc. but not one for a train wreck. Did we do things the way everyone would have liked, No. Are there things that we can work on, most definitely. Everyone needs to know that we did the best we could with the information and training we received. In the end, no one was killed during the response. This was a once in a lifetime event for most responders. This was what we consider a "large-scale" emergency. While we were not the primary agency to respond to this disaster, we were at the scene late Friday night and have had many sleepless days and nights that followed.

My message has been consistent and yes I am being selfish. I want the residents of Beaver County to be taken care of the same as those that were affected in East Palestine and I want our first responders to be taken care of. The cost associated with this emergency should not be a burden to the taxpayers of Beaver County nor any of the local municipalities.

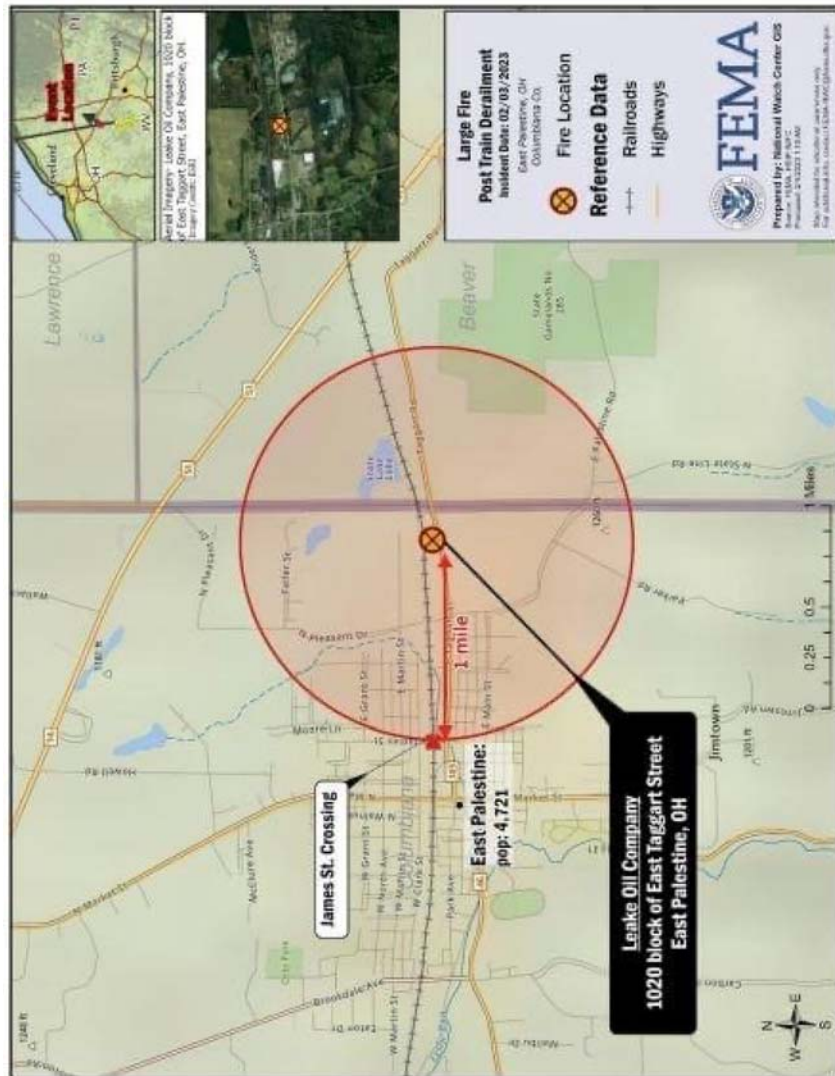
A disaster is not a matter of if, it's a matter of when.

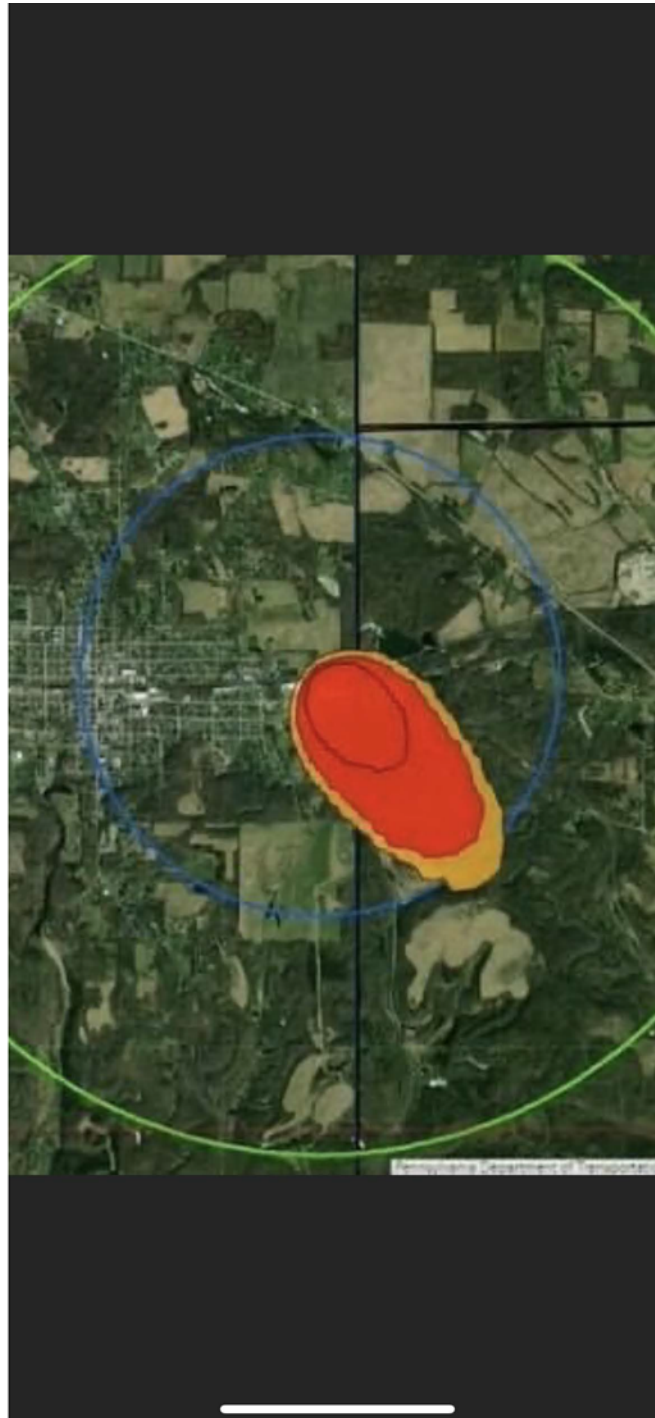
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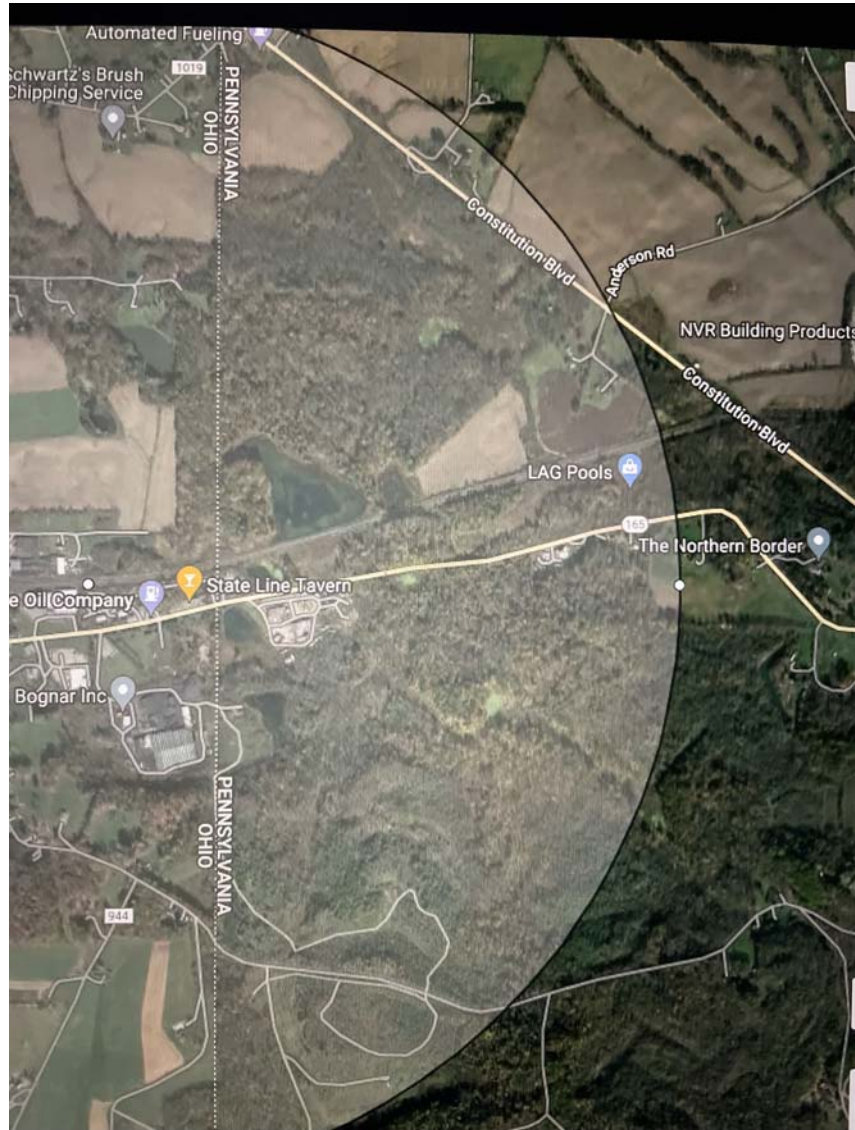
The following are some of my observations associated with this incident:

1. Transparency. There was a lack of transparency from Norfolk Southern. They needed to be upfront on what they planned to do. There cannot be confusion between the agencies during critical planning.
2. Reimbursement. We need the proper reimbursement for the first responders.
3. Health monitoring for first responders needs to be done. Whether this is a CDC or State Health Department initiative, someone needs to see that it is carried out.
4. Residents need reimbursed appropriately for all of their bills and inconveniences. In my opinion, those Beaver Countian's who were affected are not being treated equally.
5. Residents are very concerned about their wells and air quality and want answers.
6. While this was not a Presidential Disaster Declaration that would normally follow the Stafford Act policy, FEMA resources could have been used earlier. They didn't arrive until the week of February 19th.
7. There appears to be a miscommunications between EPA Region 5 and EPA Region 3. This holds true to FEMA Region 5 and FEMA Region 3.
8. Emergency Management Programs at all levels of government are underfunded, understaffed or in some cases not thought of until something happens. This oversight leads to lack of preparedness.









Senate Committee on Environment and Public Works
Hearing Entitled, “Protecting Public Health and the Environment in the Wake of the Norfolk
Southern Train Derailment and Chemical Release in East Palestine, Ohio”
March 9, 2023

Questions for the Record for Eric Brewer

The following are my answers to the questions

1. Beaver County Hazmat was an assisting agency to Columbiana County, Ohio. We assisted the East Liverpool Fire Department who responded as the main hazmat team for this incident. Beaver County was on the scene from approximately 10:15pm February 3rd to 4:00am February 4th. Our primary assignments were air monitoring in the immediate area of the derailment as well as where first responders were working. We also had staff assigned to the research function. This group researched what was on the train consist.
 - a. Columbiana County’s Hazmat was embedded into the Unified Command under the Fire Operations. They would have been “in-charge” of all hazardous materials operations and assigning tasks to the assisting hazardous materials teams.
2. The Unified Command consisted of East Palestine Fire, Police, Columbiana County Sheriff’s and Columbiana County EMA. Norfolk Southern had staff on scene fairly early however their Hazmat Coordinator arrived at approximately 2300hrs. (that time may be off)
 - a. As the incident progressed the Unified Command grew. I know Ohio EPA and Ohio Highway Patrol were added. However at approximately 5am on Saturday morning my organization was released as we were an assisting agency.
3. I can only speak for the time I was there which was until Saturday February 4th at around 4am. During this time there was coordination between the agencies and I do not believe that any one agency made operational decisions on their own.
4. When I (my team) arrived on scene the train consist was obtained shortly afterwards by Norfolk Southern personnel. Just to be clear, even though we had the train consist we still had to go through and research the materials involved. This takes time.
 - a. I’m not aware of additional chemicals that were not on the train consist.
5. Speaking for my agency. We lacked consistent communications from the railroad. As I said in my testimony. If they would have told us they planned on doing the procedure on all five cars and not the one like we thought, we would have had more time to plan, ask questions and get the community better prepared. In the hours following the incident
6. The train consist was provided shortly after I was on scene which was around 2230hours on Friday night.
 - a. I do not know this question. Those who were on scene prior to me may know.
7. I am not a railcar expert, I do not know this answer. This was asked by many in the room including the Ohio and Pennsylvania Governor. I believe one of the responses were that this was the safest methods.
8. We are a hazmat response team that is certified under the Pennsylvania Emergency Management Agency. These types of emergencies are not typical to respond to. This was a major incident response that I categorized as a “once in a lifetime” event. This incident would overwhelm any major city’s emergency response.
 - a. If you consider resources people, then we need more people. Our particular hazmat response team is made up of mostly volunteer’s. We have ongoing recruitment and retention problems that are only going to get worse. So I’d say the biggest resource we need is people and a way to pay those people. The current funding we get through the state grant is not clear on compensation of personnel unless that person is an actual employee.

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9. I will speak for most Pennsylvania County emergency services departments that I am aware of. Most departments are not equipped to handle environmental disasters, especially one of this magnitude. They do not have the equipment nor expertise to respond or deal with most environmental issues.
10. In my opinion, due to the size of this incident, state agencies should have had an immediate response. In Pennsylvania, our Emergency Management Agency (PEMA) and Pa DEP responded the night of the incident. There were other state agencies that I feel could have had a better immediate response such as the Pennsylvania Department of Health. I’m speaking for Pennsylvania and not Ohio. I’m not familiar with the Ohio response.
 - a. During these types of events the local first responders and local agency’s know their area and people the best. They need to trust the local response agencies and include them in the process. I’m speaking for my agency however I know other local agency’s feel the same that when the Federal Government came to town they pushed the locals to the side. This is when some feel that the response was flawed. I’ve expressed my concern many times with the EPA. Ohio is covered by EPA Region 5 and Pennsylvania is covered by EPA Region 3. They are from different regions with different people. Even though it’s the same agency they don’t communicate well from an interagency perspective. Their poor communications is noticed by many and has been throughout this event. Another concern of the communications between agencies is that although this event occurred in Ohio, it was about 800 feet from the Pennsylvania border. On the day of “the burn” most of the plume went west into Pennsylvania. Response and attention to Pennsylvania residents didn’t not seem to be a concern to the Federal Government until some of us locals started to speak up and make it a concern. I have to continue to remind the Federal Government that there are places in Pennsylvania that are closer to the crash site than places in Ohio yet the Ohio area’s continue to get the attention that Pennsylvania needs. I regress to my complaint about communications between EPA Region 5 and Region 3 on this.
11. From a hazardous materials team perspective there have not been many changes to safety protocols in the last five years.
 - a. Continuous training and updating equipment and technology are the best steps we can take to ensure safety for not only our responders but also the public. In my opinion industries that tax the system should be the biggest contributors to the system. In other words, Railroads, pipelines and chemical company’s should pay their fair share to support hazardous materials programs whether that be equipment or training.

Senator CARPER. Mr. Brewer, thank you, and thanks again to you and really, the good people throughout this Country who are willing to get up in the middle of the night to risk their lives for the rest of us. Thank you.

I am going to ask some questions now and turn it over to Senator Capito for her questions, and we will hear from some of our other colleagues. I do not ask a lot of yes or no questions, Mr. Shaw; I am going to ask a few today and just ask you to answer, keep it short and answer yes or no if you can.

When I think about the train, the derailment and chemical disaster that continues to impact the people of East Palestine and surrounding communities, I can not help but think what if this happened in my neighborhood to my own family. We have fairly heavy train travel, freight train travel throughout northern Delaware, and our communities are used to seeing those trains move throughout our State.

What if there were burning toxic trains outside of our window in our community, damaging our air, our water, and possibly making my family and our neighbors sick? What if this disaster lowered the value of our home, our business that I worked my whole life to build? I will be honest; I would be furious. I think most of us would be, and we would want to make sure that Norfolk Southern took action to make our families and our communities whole.

My first question is just a simple yes or no question, I have three of them. I think Americans, if we could get them all in this room, a lot of them would ask the same questions, if this happened in their towns. Yes or no, will you commit that Norfolk Southern will be there as long as it takes to make East Palestine, Ohio, Darlington Township in Pennsylvania, and the surrounding communities whole from this disaster? Yes or no.

Mr. SHAW. Senator, thank you for that question. I understand that concern. That is the same concern that is shared with me by the residents of East Palestine and Darlington Township. I am terribly sorry for the impact this derailment has had on the folks of that community, and yes, it is my personal commitment and Norfolk Southern's commitment that we are going to be there for as long as it takes to help East Palestine thrive and recover. That is my personal commitment.

Senator CARPER. I take that as a yes, thank you. That is the answer I was looking for.

Next question. Will you commit that Norfolk Southern will compensate the people in these communities for possible long-term medical costs and economic damages resulting from this disaster? Yes or no, please.

Mr. SHAW. Senator, we are committed to doing what is right for the folks of East Palestine and the community. That has been my personal commitment since the day after this happened. I pulled my team together and I told my team, we are going to do more than less with the environmental cleanup, and we are going to do more than less with the citizens of East Palestine.

Senator CARPER. My third question is, yes or no, will you commit to paying for long-term medical testing for people in the impacted communities to ensure that anyone with known or suspected expo-

sure to dangerous chemicals due to this disaster is monitored for adverse health effects? Yes or no.

Mr. SHAW. Senator, I am committed to doing what is right. We are going to be there today, tomorrow, a year from now, 5 years from now, 10 years from now. I told the community that. I have been there in person. I looked into their eyes. I have heard their concerns. I have been in their family rooms. I am committed to that community, and so is Norfolk Southern.

Senator CARPER. All right, thank you for that.

My second question would be for Administrator Shore. I commend EPA, I want to commend its employees and leadership for being in East Palestine, at least for the rank and file to be there within hours of the accident, and for the hard work that you and others have been doing every day since then to get the contamination cleaned up.

I also commend EPA for continuing to listen and response to the community's concerns, including adapting the monitoring and sampling to ensure that any adverse environmental impacts and possible significant health effects from this disaster are known and addressed.

Administrator Regan's level of personal involvement here I believe is unprecedented from anything I have seen in my experience. I think I know the answer, but I will ask you the same thing I asked Mr. Shaw. That is, do you commit that EPA will be there for as long as it takes to protect the public health and environment of the impacted communities?

Ms. SHORE. Thank you, Senator Carper. Yes, EPA is committed to continue to work with our partners in the community and make sure they have the support that they need and deserve. EPA will be on the ground as long as it takes.

Senator CARPER. Thank you. My last question I will ask is of Director Vogel, and to Mr. Brewer. Before this hearing I had the opportunity to speak with several of the officials involved in the response to this incident, including the governors of Ohio and Pennsylvania. Governor Shapiro shared with me a letter he sent to Norfolk Southern on February 14th, 2023. The letter asserts that Norfolk Southern did not communicate well with State and local agencies in the early days of the response, which led to confusion as well as concerns that alternative options for safely removing the chemicals were not adequately considered.

In your experience, did you receive the information you needed for Norfolk Southern to adequately make decisions relating to protecting public health and safety? Were there any gaps in communications from Norfolk Southern to responding agencies in the first 72 hours of the derailment that may have contributed to distrust within the impacted communities? If so, has Norfolk Southern satisfactorily addressed any such communications gaps since that time? Ms. Vogel?

Ms. VOGEL. Mr. Chairman, thank you for your question. I do believe there were quite a few gaps in communication and missteps in the very early hours following the derailment. I do believe those gaps in communications have been addressed and believe the teams are working well together on the ground today. Yes, things could have been handled better in the beginning hours.

Senator CARPER. Thank you. Mr. Brewer, same question. Were there any gaps in communications from Norfolk Southern to responding agencies in the first 72 hours or so of the derailment that may have contributed to the stress within the impacted communities? If so, has Norfolk Southern satisfactorily addressed such communications gaps since that time?

Mr. BREWER. Thank you. The boots on the ground crews were great to work with. It seemed when bosses or management got there, that is where the communication failures started. That is probably why we are here today. The decision to go from the one tank car to the five was jaw-dropping, just because of the impact it had. Since then, they did seem to get better.

Senator CARPER. Thank you. Senator Capito, you are recognized for your questions.

CAP: Thank you. Thank you all for being here; thank you for your testimony. It is my understanding, this is sort of a table-setting question here, that no one, not the EPA, not the State, not Norfolk Southern, has been making these cleanup decisions in a vacuum. Instead, a unified command group of these entities and experts has all had input into these major decisions.

For everybody who is here, could I have a show of hands of whose organization is represented in this unified command group? [Show of hands.]

Mr. BREWER. We used to be, up until like last week or so. EMA is involved, which is Columbiana.

CAP: Okay, thank you. Is that a fair assessment that I made forward, that these decisions are not made individually, they are made by the unified command? If you disagree, you can shake your heads. All right, thank you.

I mentioned in my opening statement, I want to go right to the EPA, Director Shore. Thank you for being on the ground early. I commended you in my opening statement, and your organization. I understand this may be something we may get into a little bit later, you have Region V, Region III, within 1,000 feet of Pennsylvania.

I am concerned now about something Senator Vance talked about, and this is the hazardous waste disposal we are seeing right now. Apparently, there are piles and piles sitting there right now, not moving. I understand that facilities in Michigan and Texas that received waste from East Palestine are some of the most qualified in the entire Country. The U.S. Ecology facility in Michigan, for instance, had already accepted 360 tons of soil and 3,000 gallons of liquid in full compliance with their permit.

The EPA has stopped; they have failed to give us an answer on what legal authority you used to stop those trucks at the gates of the facility that had already been accepting large volumes of waste. You said in your statement that this is great news, because it means the cleanup can continue at a rapid pace. If it is still sitting there, I would say that is a contrarian kind of, that is in opposition to what we are seeing.

All shipments of contaminated soils have been suspended onsite to test for dioxins, something that should have possibly been done weeks ago. There was an insistence, I think, that the dioxin con-

cerns were not as severe as what now you are going back and testing.

Let me be clear: it goes to this whole mixed messages of what is going on here. Help me understand why you are delaying this cleanup effort, why the piles are still piling up. Any time you get there, it disturbs not just the chemicals, but it brings the odor and then here comes the lack of trust right back down onto the community.

Could you help me with this? Is it true that most of the remaining contaminated soil is still sitting there in East Palestine? When are you going to get it out of there? Where are you going to take it? I know you are not doing it, Norfolk Southern is doing it.

Ms. SHORE. Senator Capito, thank you for that. First, I want to thank you for acknowledging the heroic efforts of all the emergency responders who were on the scene within hours, including EPA on-scene coordinators from both Region III and Region V. I have them at the front of mind every day. Thanks for acknowledging their efforts.

Let me report that waste is moving offsite, even as recently as yesterday and today.

CAP: Where is it going? Where is it going from the site?

Ms. SHORE. To a number of facilities that are EPA-approved, that have the capacity to receive the waste, that have contacts with Norfolk Southern, and that have gone through our due diligence and a compliance review, which is necessary once Federal EPA issued the order and assumed authority for the cleanup work from Ohio EPA. We did pause to conduct that necessary due diligence and compliance review. Then all the facilities fell under the CERCLA regulations.

Norfolk Southern engages facilities wherever they may be to accept solid and liquid waste. It is EPA's responsibility to ensure that the safeguards are in place for that waste and the loading transport and unloading to make sure that they are compliant with our regulations and to make sure they have the capacity to take the waste.

I can share some good news with you, that the results from the dioxin testing that Indiana requested came in yesterday. There are very low levels. We expect waste to be moving perhaps as soon as today to other facilities. No option is off the table.

CAP: I would like to see a list of the facilities. I would also like to ask quickly, if I can have just another minute, why did you wait a month before you started to order the dioxin testing, when the community was asking for this? Was that a decision that you made early on, that it wasn't critical? How was that decision made?

Ms. SHORE. Senator Capito, our air monitoring was searching for primary indicators, such as phosgene and hydrogen chloride immediately, during, and after the burn. We detected very low levels which very quickly went even down to non-detect.

Without those primary indicators, it was a very low probability that dioxins would have been created. They are secondary products of the burning of vinyl chloride.

We were listening to the community. They expressed significant concerns about dioxins. Norfolk Southern has submitted a soil sampling plan. It has undergone review by the unified command and

our folks will be out sampling soils for dioxins. There is a meeting with Agriculture representatives this afternoon.

CAP: Thank you. The air issue is obviously 30 days late, it is a little bit well past the time when the intensity might have been felt more. Thank you for your answers.

Senator CARPER. Thanks for those questions.

Now I am going to take a couple of minutes and ask a few questions that were submitted by Senator Fetterman, who can not join us today. First question would be with regard to the Railway Safety Bill that has been introduced by several of our colleagues who spoke earlier.

My first question is to Mr. Shaw. In light of the derailment in East Palestine and the subsequent derailment and train crash that both happened in the last week, the National Transportation Safety Board and the Federal Railroad Administration have both announced that they will be conducting investigations into the safety of your company. The U.S. Department of Transportation has called on Norfolk Southern to act urgently to improve your focus on safety. Additionally, I, along with Senators Brown, Casey and Vance, have introduced a bill that would impose commonsense measures to improve rail safety.

Senator Fetterman's question is this. Will you commit to supporting the bipartisan Railway Safety Act and help restore the public's trust in your company?

Mr. SHAW. Senator, thank you for that question. We are committed to the legislative intent to make rail safer. Norfolk Southern runs a safe railroad. It is my commitment to improve that safety and make our safety culture the best in the industry.

Just last year, derailments on Norfolk Southern were the lowest they have been in the last 10 years. Our personal injury rate is amongst the lowest in the industry. As you and I spoke about yesterday, we can always get better. That is my intent, is to continue to invest and continue to improve.

Senator CARPER. Thank you. As a followup from Senator Fetterman, he would like me to ask you, if you do not support the bill in its entirety, are there specific provisions of the bipartisan Rail Safety Act that Norfolk Southern could support?

Mr. SHAW. Senator, there are a number of provisions that we would absolutely support. The rail industry has been in support of tighter tank car standards for a number of years. I understand that is in the bill.

We support more training and more funding for first responders. We support enhanced wayside detector technology. In fact, Norfolk Southern is leading the industry in a number of ways. You saw just this week a six-point safety plan that included a number of issues in which we are implementing immediately to improve safety, including installing more wayside detectors. The first one was installed yesterday outside of East Palestine.

Senator CARPER. Thank you. Another question for you, Mr. Shaw, one more question from Senator Fetterman. His staff has heard from local officials in Darlington Township that Norfolk Southern began giving "inconvenience" stipends to individuals with an East Palestine zip code. After requests from Darlington and Beaver County, Senator Fetterman, along with Senator Casey and

Congressman Deluzio, Norfolk Southern extended the inconvenience stipend. It is still not clear how wide an area that covers.

Senator Fetterman is asking you to please clarify whether Pennsylvanians who left their homes after the derailment are entitled to this financial assistance from Norfolk Southern.

Mr. SHAW. Thank you for that question. I am, again, terribly sorry for the impact and the disruption that this has had on the local communities. I am proud of the fact that Norfolk Southern had established a family assistance center within 24 hours of the derailment. We have assisted well over 4,400 families, including families from Pennsylvania.

Earlier this week, we announced a much more comprehensive package, totaling \$7.5 million, for Pennsylvania. Again, sir, that is just a down payment.

Senator CARPER. All right. A followup to that, Senator Fetterman believes they need more insight into how Norfolk Southern coordinated with Pennsylvania agencies in the immediate response to the derailment. While the national attention has been focused on the Ohio side, this derailment occurred less than a mile from the Pennsylvania border. Pennsylvanians live directly downwind from the chemical release and burn.

Mr. Shaw, again this is Senator Fetterman's question, why weren't the Pennsylvania Emergency Management Agency and Pennsylvania Department of Environmental Protection contacted until hours after the derailment? Is there a process in place to notify the relevant State agencies when a derailment of train cars containing hazardous materials occurs? If so, why hasn't this process been followed in this instance?

Mr. SHAW. Senator, the process that is established is part of the Department of Homeland Security Presidential directive that was established in 2003. My understanding is Norfolk Southern immediately contacted the National Response Center which then contacted applicable Federal, State and local authorities.

Senator CARPER. All right. Now we are going to turn to Senator Mullin for his questions.

Senator MULLIN. Thank you, Mr. Chairman. Thank you so much for being here.

I want to add to Senator Capito's question to Ms. Shore. I am going to ask Mr. Shaw, would you speak to the fact that the waste is being disposed at a facility 17 miles from East Palestine?

Mr. SHAW. I am sorry, Senator, could you repeat the question?

Senator MULLIN. Well, we have reports that East Liverpool in Ohio is receiving this waste from East Palestine that has been disposed of. Is that accurate?

Mr. SHAW. Senator, standing here today, I do not know if that is accurate as of this time.

Senator MULLIN. Do you know where the waste is going to?

Mr. SHAW. We are in the process of working with the EPA on a number of facilities.

Senator MULLIN. We have not identified where it is moving to yet?

Mr. SHAW. Senator, we are in the process of working with the EPA on a number of facilities that—

Senator MULLIN. I understand that. I am just, I get you are in the process. We have not identified a place where this is being removed to yet. Is that accurate?

Mr. SHAW. Senator, I want to make sure I give you the most accurate—

Senator MULLIN. I get that. I am just saying, is it accurate that we do not have a spot yet for it?

Mr. SHAW. Senator, we are moving some offsite.

Senator MULLIN. Where is it moving to?

Mr. SHAW. I am happy to give you a list of those facilities?

Senator MULLIN. Could you do that for us, please? I would appreciate that.

Mr. Shaw, when the vent and burn process was being made, who made those decisions and what was other considerations, other than just burning it and letting the material burn off?

Mr. SHAW. Thank you for that question. The only consideration, Senator, was the safety and health of the community. That decision was made by the unified command under the direction of the incident commander.

Senator MULLIN. Who is that?

Mr. SHAW. The incident commander was Fire Chief Drabick. Norfolk Southern was a part of the unified command.

Senator MULLIN. Who owns the car? Who actually owned the rail car with the material in it?

Mr. SHAW. The rail cars in question are tank cars which no railroad owns.

Senator MULLIN. Were they considered in this decisionmaking? Are they responsible for the content of it, and the car itself, for the maintenance and the material in it, isn't that correct?

Mr. SHAW. Senator, it is a privately owned rail car. The maintenance requirements for that rail car are between the rail car lessor and the customer and those are private contracts. I am not privy to those.

Senator MULLIN. They are responsible for the content and the car, correct, making sure it is operating properly?

Mr. SHAW. Yes, sir.

Senator MULLIN. Were they considered in this decisionmaking, considering it was their car, their design, their responsibility? Were the part of that decisionmaking on being able to vent it and burn it?

Mr. SHAW. Senator, the customer provided input.

Senator MULLIN. Were they in the room when the decision was being made? I have received reports that they weren't. They weren't in the room?

Mr. SHAW. No, sir, not to my knowledge.

Senator MULLIN. I just see that kind of hard to believe, considering that it is their car, it is their responsibility, and they weren't even considered before this decision to vent and burn it in the middle of a town. Doesn't that seem like possibly a mistake there?

Mr. SHAW. Senator, unified command was focused solely on the health and safety of the community.

Senator MULLIN. Right. The people that was in charge of the car should probably have a say in that to make sure we know the best way to dispose of it.

Mr. SHAW. My understanding at the time from talking to experts was that we were at risk of a catastrophic rupture that would have resulted in uncontrolled release of hazardous materials.

Senator MULLIN. It is my understanding, and I have not been able to clarify this, that the report that I received was the fact that the car was actually working properly at the time. The car's owners, the ones responsible for it, wasn't consulted before it burned off. Now, I have not been able to verify that, but I am asking these questions because that is the information I received. If that is the case, I think that is an area for improvement. Wouldn't you consider that?

Mr. SHAW. Senator, I can not comment on the accuracy of that report. I am not aware of that.

Senator MULLIN. I am saying, if it is accurate, if that was accurate, wouldn't you consider that is a place we could probably learn from?

Mr. SHAW. I think the primary concern was the health and safety of the communities.

Senator MULLIN. Sir, I get what you are saying. I am not trying to be disrespectful to you. I am saying is, if all parties that are responsible for that car should have been part of that decision-making, because I believe they would probably say that they would be concerned too. I think everybody in this room will say that we are concerned about the health and safety of others. That is a given. There is no point in repeating that.

I am just saying, how can we learn from this going forward, if they weren't in the room during the decisionmaking and yet it was their car and the report may be accurate that the car was actually working functionally correctly, because these cars are designed for this kind of incident, that the option to vent and burn may not have been the best option if we didn't consider all other options first.

Mr. SHAW. Senator, I understand that. The experts on the ground who were there were very concerned about the pressure in a car. We also noted that other cars had been in a pool fire. Unified command was aware that there was concern for a catastrophic explosion that would shoot VCM gas and shrapnel—

Senator MULLIN. I hear you. We are just talking in circles here.

Chairman, what I am trying to get to is the fact that if this car was designed by someone else and if this car was owned by somebody else and the function of that car was designed by somebody else and was responsible by somebody else, then how do we know that the car wasn't working properly to begin with? That is a question that needs to be answered. Someone may need to be held responsible that made the decision to burn this off. Some of this, and a lot of this, could have been prevented.

With that, I will yield back.

Senator CARPER. Thank you very much for those questions. Senator Cardin, you are next.

Senator CARDIN. First, Mr. Chairman and Ranking Member, thank you very much for scheduling this hearing. I want to thank all the witnesses who are at the table.

Yes, I am very concerned that this was a preventable accident, preventable circumstance. The safety standards should have been

able to deal with this. There needs to be full accountability. We need to make changes moving forward. We have concerns about corporate responsibility and decisions made at the corporate level, all areas that are of grave concern to every member of this committee.

I represent the State of Maryland. The Ohio River may not flow through the State of Maryland, but its watershed does impact water in Maryland. I am interested, if I can, Mr. Harrison, Ms. Vogel, if I can get your understanding of how you are monitoring the quality of water as a result of this incident. What concerns me is that we have more extreme weather events that are occurring in our communities.

As you are doing your monitoring, what precautions are you taking for extreme weather events that are likely to occur, and the impact that that could have, not just on Ohio and Pennsylvania, but perhaps even on Maryland as it relates to water quality or even air quality?

Mr. HARRISON. Thank you, Senator, for that question. I will speak to the work ORSANCO has been doing to protect the Ohio River drinking water supply. It really hinges on our great organics detection system, which is a number of scientific instruments, including six that are GC mass specs, which are very sophisticated instruments. We have been able to calibrate those for the various chemicals that we are able to detect. Those continue to operate.

In addition to being able to utilize those for one-off sampling that we did as we tracked the spill remnants all the way through over 700 miles down the Ohio River, we are continuing to operate those, actually our drinking water utilities are continuing to operate those on a daily basis. That systems remains in operation and will continue to be in operation as long as necessary.

We are able to detect those chemicals and any threats that might come through rain. I am involved in the unified command, except for today. We have anywhere from two to three meetings a day and we are abreast of the onsite conditions that may occur. Last week's rain, for instance, we were able to demonstrate with our equipment that we did not detect any of the chemicals of concern.

Senator CARDIN. In regard to groundwater sources?

Mr. HARRISON. We do not work in the groundwater arena. Our compact focuses on surface water.

Senator CARDIN. Ms. Vogel, can you add to this?

Ms. VOGEL. Senator Cardin, thank you for your question. We appreciate the work of ORSANCO. My team on the ground from AEP Ohio is sampling the surface water every single day. We are taking samples in 20 different locations. We have a website set up with an interactive map where you can see exactly where we are sampling and what we are sampling for. It is a broad array of chemicals of concern, but also volatile chemicals generally. We are posting those results. We are continuing to see dilution of the chemicals of concern.

I just want to be very transparent and say, we will continue to sample as long as we find any detections. It does seem to be facing.

On the groundwater side, Senator, we have installed monitoring wells at the location of the derailment. We have also installed sentinel wells near Sulphur Run and Leslie, between them and the

municipal well field so that we will be able to test those on a weekly basis and know if there are any contaminants that might be approaching any groundwater or drinking water.

Senator Cardin. Are you being totally transparent as you are doing this so that those of us who have concerns, particularly about impacts of extreme weather events, will be able to get contemporary assurances that the monitoring is being done?

Ms. VOGEL. Yes, Senator. It is the No. 1 priority of the team on the ground to prevent any additional releases, either through rain events or of course, from going any further than the initial contaminated area. That is our No. 1 goal with water management right now.

In terms of transparency, we are posting full lab results the minute we get them. The Governor is very committed to being transparent and providing all the information that we have when we have it.

Senator CARDIN. Thank you. Thank you, Mr. Chairman.

Senator CARPER. Thank you very much for joining us today.

I am told that Senator Ricketts is next in line. If you are ready, I will yield to you. Thanks for joining us.

Senator RICKETTS. Thank you very much, Mr. Chairman. Thank you to all the panelists for joining us here today. Of course, Nebraskans are praying for the people of East Palestine and this terrible tragedy. We have a number of railroads that go across our State as well, so we are praying for a good outcome here with regard to the cleanup.

Ms. Shore, I would like to address my first couple of questions to you. I am sure you agree that Americans deserve timely and helpful updates when it comes to an environmental catastrophe, right? Yes. Yes, Okay, great. You agree Americans should be confident when they return to their homes that they are safe to return to, right?

Ms. SHORE. Yes.

Senator RICKETTS. What are some of the things that the EPA has learned from with your response here that you would use to be able to improve going forward with regard to, we have heard how the people of East Palestine are not believing what the government is saying. What can the EPA do or what have you learned from this to be able to help for the next incident to be able to help the people of that community get the information, feel like it is safe to return to their homes?

Ms. SHORE. Thank you, Senator Ricketts. First, let me say I bring greetings from your sister, Laura, who has been a long-time friend of mine back in Illinois.

To your question, we are still enmeshed in the cleanup of the derailment. That is our primary focus. We need to clean up the site, get the contaminated waste out of there, and then focus on the longer-term remediation. There will be an after-action report, and we will be able to drill in on what lessons we can learn and how we can do better.

Right now, we need to clean up the site as safely and quickly as possible, and ensure that the necessary safeguards are in place to protect human health and the environment.

Senator RICKETTS. All right. Thank you, Ms. Shore.

Mr. Shaw, I am going to ask you basically the same questions. I am sure you agree that Americans should have timely information when there is a catastrophe like this, right?

Mr. SHAW. Yes, sir. It is an emotional issue and it was a devastating derailment for the folks of East Palestine. That is one of the reasons that we set up our family assistance center within 24 hours and have served 4,400 families. We have also established a website, nsmakingitright.com. That is based on feedback that I have gotten from the community as I have walked around and talked to people. They want more information, sir.

Senator RICKETTS. I am sure you agree that people want to know when it is safe to go back to their homes as well. What has Norfolk Southern learned from this that would help them be able to provide that information to people so they can feel comfortable in going back to their homes and they are getting the proper information in a timely way? What have you learned about what you would do differently going forward?

Mr. SHAW. Senator, in the immediate aftermath of this derailment, we had air monitoring in place, we had water monitoring in place. We have been collaborating with the EPA. My understanding is all the tests have shown that the air is safe and the water is safe.

Senator, to your point, when we set up our website, I asked the citizens of East Palestine for feedback. I asked them to tell me how we could make it better. What they have asked for is information on the website on the results of those air test and the water tests. Senator, I have also made sure that we point folks to the results of the Ohio EPA and the Federal EPA air and water tests. They are the experts. We are here to support them.

Senator RICKETTS. Is there anything in hindsight that you say, hey, we should have done this better when it comes to how we are communicating with the people of East Palestine?

Mr. SHAW. Senator, there are always opportunities to improve communication. I was there very soon after the derailment. I immediately went to the Norfolk Southern Family Assistance Center, and I immediately went to the Red Cross shelter. I told them who I was. I told them the company I represented. I made sure they knew I was the CEO of Norfolk Southern.

I also made sure that I asked if they were getting everything that they needed from Norfolk Southern.

Senator RICKETTS. All right. Thank you very much, Mr. Shaw.

I yield back.

Senator CARPER. Thanks. Senator Sanders, you are next.

Senator SANDERS. Thank you very much, Mr. Chairman, and we thank the panel for being with us today.

Mr. Shaw, you indicated in response to a question from the Chairman that, "I am committed to doing what is right." Well, I think all of us are committed to doing what is right. The devil is in the details.

Mr. Shaw, Wall Street, about a decade ago, in order to increase the profits they were earning in the rail industry, implemented a program called precision scheduled railroading. The result of that is that Norfolk Southern reduced its workforce by almost 40 percent over 6 years.

Meanwhile, in fact, Wall Street's goal was achieved, profits soared for Norfolk Southern. You made over \$3 billion in profits last year.

I have been told by workers who work for your company and other rail companies that they are now being asked to do more work with fewer workers. That includes safety inspections. Well before this disaster in East Palestine, we have been told about the potential safety hazards.

Will you make a commitment right now to the American people that you will lead the industry in ending this disastrous precision schedule railroading, which has slashed your work force and made railroading much less safe? Yes or no, will you make that commitment?

Mr. SHAW. Senator, I understand your concern and I share that concern. If you will permit, I have a couple points on that.

I became CEO in May of last year. Ever since that point, Senator, we have been on a hiring spree. The number of employees at Norfolk Southern today is 1,500 more than it was this time last year.

Senator SANDERS. You will forgive me, I do not mean to be rude. We just do not have a whole lot of time here. I understand that. You will not deny what you are trying to do is rebuild from the massive layoffs that took place.

My question back to you again, Wall Street, not the industry, imposed this on the industry. Wall Street said, we are not making enough money. Cut workers, cut workers, cut workers, even if it endangers safety.

My question to you, very simply, sir, will you lead the industry in doing away with precision scheduled railroading, that concept?

Mr. SHAW. Senator, in December of last year, I charted a new course in the industry that said we are going to move away from a near-term focus solely on profits, and that we are going to take a longer-term view that is founded on our engagement with our craft employees who are so critical to our success.

We were the first to pivot out of it.

Senator SANDERS. Let me drill a bit again. I apologize for cutting you off. When you talk about your employees, the entire Country I think was shocked to learn a number of months ago that your employees, rail workers, who work in dangerous, dangerous jobs in all kinds of weather, has zero paid sick days. Now, I know that is beginning to change.

I would ask you, given the fact that Norfolk Southern provided \$10 billion in stock buybacks recently, can you tell the American people and your employees right now that in order to improve morale in your work force, that you will guarantee at least seven paid sick days to the 15,000 workers you employ? I do know you have made some progress. You increased paid sick days to some of your workers.

Will you do what most Americans think is pretty obvious, that when you get sick, you get guaranteed paid sick days? Will you make that commitment right now to your entire work force?

Mr. SHAW. Senator, with our latest agreement with our employees, which included a historic 24 percent wage increase and access

to premium health care benefits, we immediately pivoted to talking to each of our local——

Senator SANDERS. I have been deeply involved. I introduced the amendment on the floor. I know the issue. What I am asking you right now, you provided paid sick days to some of your employees. I got it, thank you. Will you now do what most America, we get here in Congress, our employees get sick, they get paid sick days. Will you make that commitment right now to guarantee paid sick days to all of your workers? That is not a radical demand. It really is not. Will you make that commitment, sir?

Mr. SHAW. Senator, I share your focus on our employees. I will commit to continuing to discuss with them important quality of life issues with our local craft colleagues.

Senator SANDERS. With all due respect, you sound like a politician, Mr. Shaw. Paid sick days is not a radical concept in the year 2023. I am not hearing you make that commitment to guarantee that to all of your workers. Clearly, we should have that for every worker in America. I am not hearing that commitment.

Will you make that commitment, sir?

Mr. SHAW. Senator, I am committed to continuing to speak to our employees about quality of life issues that are important to them.

Senator SANDERS. All right. I am Chairman of the Health, Education and Labor Committee. We look forward to having that discussion.

One last issue.

Senator CARPER. Senator Graham is waiting to speak, so Senator Sanders, if you will keep this really brief.

Senator SANDERS. Last question. You talked about covering the needs of the people of East Palestine. Does that include paying for their health care needs? All of their health care needs.

Mr. SHAW. Senator, we are going to do what is right for the citizens of East Palestine.

Senator SANDERS. What is right is to cover their health care needs. Will you do that?

Mr. SHAW. Everything is on the table, sir.

Senator SANDERS. Thank you.

Senator CARPER. Thank you, Senator Sanders. Senator Graham?

Senator GRAHAM. Let's just sort of continue what Senator Sanders was talking about. This hearing is designed to make sure that this doesn't happen again. Is precision scheduling, what was the phrase that Senator Sanders used?

Senator SANDERS. Precision scheduling railroading.

Senator GRAHAM. Did that have anything to do with this accident directly?

Mr. SHAW. Senator, thank you for that question. The NTSB report said that Norfolk Southern crew did everything that they were supposed to do. I personally thank them for that.

Senator Graham. All right, so let's get back to what we are here for, is to try to solve the problem in front of us. What caused this?

Mr. SHAW. Senator, the NTSB report is still ongoing. I am not waiting to act.

Senator GRAHAM. It wasn't lack of personnel, right?

Mr. SHAW. There is no indication that it was lack of personnel.

Senator GRAHAM. Or that they did anything wrong?

Mr. SHAW. The NTSB specifically said there is no indication that the Norfolk Southern crew did anything wrong.

Senator Graham. Okay, when we find out what happened, let's try to fix it. We can talk about paid leave, and I think I may have actually voted for Bernie's amendment. I do not quite remember.

I want to focus on the moment we have here. How many times have you been to East Palestine?

Mr. SHAW. Senator, I have been there five times.

Senator GRAHAM. Ms. Shore, have you been there?

Ms. SHORE. Senator Graham, I have spent 11 out of the last 30 days in East Palestine.

Senator Graham. Do you think you have benefited from having been there and listened to the people?

Ms. SHORE. Very much so.

Senator Graham. What about you, Mr. Shaw?

Mr. SHAW. Yes. It has really helped me.

Senator GRAHAM. Yes is good. Would you be willing to go with President Biden if he chose to go there? Would you be willing to go with him if he asked you to go?

Mr. SHAW. Senator, I want to keep the politics out of it. I am not qualified.

Senator GRAHAM. It is not a political question. The question is, if the President asked you to go, would you go with him?

Mr. SHAW. I will go with anybody who wants to go and help the community of East Palestine.

Senator GRAHAM. Ms. Shore, same for you?

Ms. SHORE. If I am asked to go, I certainly will.

Senator GRAHAM. I am calling on the President to ask both of you, and go. What is the downside of talking to people about going through a big trauma? Him going there doesn't fix all the problems. I think it is a step in the right direction. I just wish you would all go there, so we could all work to solve the problem. The more we know—maybe I should go there.

The bottom line is, would either one of you have a problem living there full time given the condition on the ground? Do you feel it is safe to continue to reside in this town? Mr. Shaw?

Mr. SHAW. Senator, the EPA and Ohio EPA have very high standards. I trust their testing.

Senator GRAHAM. Would you live there, given what you have seen?

Mr. SHAW. Yes, sir. I believe the air is safe, I believe the water is safe. There are hundreds of tests, there are millions of data points. They all point to the same thing. I genuinely enjoy my conversations with the folks in East Palestine.

Senator GRAHAM. I am sure they are traumatized, and every time somebody shows up, it is probably good.

Ms. Shore, do you agree that it is a safe place to live?

Ms. SHORE. Senator Graham, science is EPA's north star. We follow the science. I drink the water there; I drink it every time I go to town. The scientific data shows that it is safe, as does the air.

Senator GRAHAM. That is good. Ms. Vogel, you are from Ohio. Have you been there?

Ms. VOGEL. I have been in East Palestine since February 3d, with the exception of 5 days.

Senator GRAHAM. That is a real dedicated effort here. Do you think you have been enriched by these visits? Has it helped you?

Ms. VOGEL. Yes, Senator.

Senator Graham. Do you think you have learned more about the problem having talked with these people?

Ms. VOGEL. Unquestionably.

Senator Graham. Would you have a problem living there now?

Ms. VOGEL. I mostly do.

Senator GRAHAM. You do have a problem with living there?

Ms. VOGEL. I mostly live there.

Senator GRAHAM. Okay, so you are Okay?

Ms. VOGEL. Yes, sir. My team and I have been there for the last month.

Senator GRAHAM. Okay, so let's do what we can do make sure it is safe to live there. Let's make sure that we help these people. If they have medical needs, let's meet them. Let's find out what happened and try to fix it the best we can.

Does that make sense to everybody on this panel? Okay.

Whether or not we need to change overtime laws, we will talk about that. What I want to do is make sure that this committee understand that if you live there, everybody here believes it is safe to live there. I feel better about that. That the railroad company, the people operating the train, are not accused of being at fault.

Let's find out what happened and fix it. Again, we have two Senators from Ohio, they are putting together a product. I want to help them the best we can. I will just end where I began. I think the President would serve himself and the Country well to go there. Please go.

Senator CARPER. Senator Graham, is that it for you, my friend? All right, thank you.

Before I turn to Senator Whitehouse for his questions, let me ask unanimous consent to enter into the record various materials detailing the Biden Administration's focus on safety and negligence to the community.

We have heard allegations that the Biden Administration is sacrificing safety. That is simply not consistent with what has happened in East Palestine, nor the Biden Administration's numerous efforts to improve safety both before and since the accident.

I want to ask unanimous consent to submit for the record various materials detailing the Environmental Protection Agency's immediate and ongoing response to the accident as well as a document describing the Department of Transportation's immediate response to the accident, including the Pipeline and Hazardous Materials Safety Administration activities.

A document showing concrete steps to strengthen rail and hazardous materials safety that Secretary Buttigieg has directed the Department of Transportation take since the derailment, and EPA's proposed rule to strengthen hazardous materials management and accident prevention under the Risk Management program.

Last but not least, I would also note that President Biden called the Ohio and Pennsylvania Governors in the first 48 hours offering assistance. Without objection.


Senator WHITEHOUSE. Mr. Chairman, while we are in unanimous consent mode, may I ask unanimous consent to add to what you have asked two articles, one titled Ohio Train Derailment as a Reminder of Plastics Dangers, another entitled This Deadly Chemical Should Be Banned.

Then a pair of articles related to the contractor that has been hired by Norfolk Southern, one entitled Oil Companies Rely on Controversial Firm to Rebut Colorado Health Study, and another entitled Checkered Past of the Contractor Monitoring the Air in East Palestine.

That would be supplemented by a letter from our new colleague, Peter Welch, back in his day as a House member, responding to the oil spill expressing concerns about this company, CTEH. If I could add those to your list of UCs, I would appreciate it.

Senator CARPER. Is there objection? Hearing none, so ordered.

[The referenced information follows:]

 An official website of the United States government
[Here's how you know](#)

[MENU](#)**EPA in Ohio**[CONTACT US <https://epa.gov/oh/forms/contact-us-about-epa-ohio>](https://epa.gov/oh/forms/contact-us-about-epa-ohio)

Previous Daily Updates: East Palestine, Ohio Train Derailment Emergency Response

Read the latest update from EPA about the East Palestine, Ohio Train

Derailment. [<https://epa.gov/oh/east-palestine-ohio-train-derailment-emergency-response>](https://epa.gov/oh/east-palestine-ohio-train-derailment-emergency-response)

March 5, 2023

As soil work continues at Norfolk Southern's derailment site, some residents close to the derailment site may notice additional odors. At EPA's request, Norfolk Southern has agreed to provide additional financial assistance to residents of the East Palestine area, including the portions of Pennsylvania within a mile of the derailment site. This assistance may include temporary lodging, travel, food, clothing, and other necessities.

Residents who would like to take advantage of this offer should contact the Norfolk Southern resource hotline at 800-230-7049 (open 24 hours) or visit the Family Assistance Center at Abundant Life Church in New Waterford, Ohio. Residents can also contact EPA at 866-361-0526 for additional guidance about available resources.

To ensure residents' safety, EPA will continue round-the-clock air monitoring. In addition to the monitoring stations, EPA's TAGA mobile laboratory is conducting an air monitoring route near the soil excavation area.

March 3, 2023

EPA has conducted 593 home re-entry screenings to date and continues 24/7 air monitoring at 21 stations throughout the community. No detections of vinyl chloride or hydrogen chloride have been identified.

EPA approved Norfolk Southern's plan to remove the railroad tracks and to excavate the contaminated soil at the accident site. Work to remove the tracks started this morning.

Approximately 300 residents attend the public meeting and resource fair held by state, local, and federal agencies on March 2. Staff from EPA, HHS, Ohio EPA and other agencies were present, as were representatives from Norfolk Southern.

March 2, 2023

EPA has conducted 589 home re-entry screenings to date and continues 24/7 air monitoring at 16 stations throughout the community. There have been no exceedances for residential air quality standards, and outdoor air quality remains normal.

In response to concerns shared by residents, EPA will require Norfolk Southern to sample directly for dioxins under our oversight, and we will direct the company to conduct immediate cleanup if contaminants from the derailment are found at levels that jeopardize people's health.

EPA is also reviewing Norfolk Southern's plan to remove the railroad tracks and to excavate the contaminated soil at the accident site. If EPA and the unified command approves, work to remove tracks could begin as soon as tomorrow.

State, local, and federal officials held a public meeting and resource fair this evening at the high school from 6 to 9 p.m.

EPA's community welcome center at 25 North Market Street is now open to the community from 8 to 8 every day.

March 1, 2023

EPA has conducted 578 home re-entry screenings to date and continues air monitoring at 16 stations within the community. There have been no exceedances for residential air quality standards, and outdoor air quality remains normal.

State, local, and federal officials are holding a public meeting and resource fair tomorrow at East Palestine High School (360 W Grant St) from 6:00 to 9:00 PM. Staff from EPA, HHS, Ohio EPA, and other agencies will be present, as will representatives from Norfolk Southern.

EPA's Community Welcome Center at 25 North Market Street is now open to the community from 8:00 AM to 8:00 PM every day.

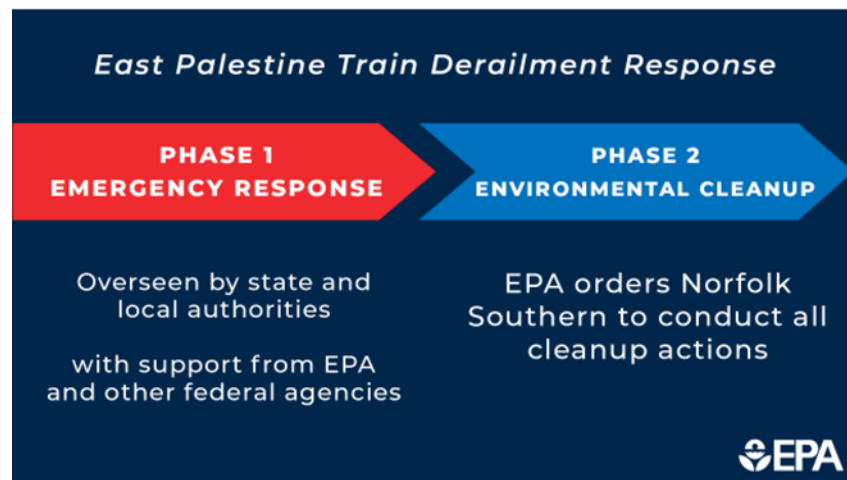
Later this week, EPA will be opening a new incident command post outside of East Palestine, near Columbiana. This will give officials enough space to park all the mobile command posts and labs and trailers that needed to oversee this cleanup without inconveniencing the residents of East Palestine.

Feb. 28, 2023

As response efforts shift to the long-term cleanup phase, EPA announced the opening of a community welcome center in East Palestine, Ohio. The EPA Community Welcome Center, located at 25 North Market St., will provide residents with a one-stop shop for information regarding the federal government's ongoing response efforts to the train derailment. Residents and business owners will be able to visit the welcome center between 8 am and 8 pm daily and access details about available resources, including indoor air-monitoring screenings and residential and business cleaning services. The new Community Welcome Center will be located at 25 North Market Street.

EPA is also deploying another mobile laboratory – a Trace Atmospheric Gas Analyzer (TAGA) mobile laboratory – that performs real-time air-monitoring and sampling analyses during the cleanup phase. Working in coordination with local, state, and federal public health agencies, the real-time data will allow EPA to ensure that the removal of wastes is done in a manner that protects people's health.

EPA also recently set up a new information hotline at 866-361-0526. Members of the community can call this dedicated phone line to be directed to various services, including the opportunity to begin the intake process for scheduling cleaning services.



Feb. 27, 2023

EPA has conducted 578 home re-entry screenings to date and continues air monitoring at 15 stations within the community. EPA continues to offer the air screening service to any resident within the evacuation zone who wants a screening.

For those interested, EPA recently set up a new information hotline. It's posted on EPA's website and is 866-361-0526. Members of the community can call this dedicated phone line to be directed to various services, including the opportunity to begin the intake process for scheduling cleaning services.

Tomorrow, EPA will officially open a community welcome center at 25 North Market Street, where members of the community can drop in to ask questions about response efforts and access information about other resources being provided, including in-home air-monitoring and cleaning services. EPA continues to closely oversee Norfolk Southern's disposal of waste to ensure the safe removal of toxic waste, relying on the agency's decades-long experience handling hazardous waste.

Read our East Palestine Joint Information Unit press release

<<https://epa.gov/system/files/documents/2023-02/east%20palestine%20information%20update%202.27.23.pdf>>

Feb. 26, 2023

Air Monitoring & Indoor Air Screening

EPA continues real-time air monitoring and collecting air samples throughout the community. Air monitoring and sampling will continue until removal of heavily contaminated soil in the derailment area is complete and odors subside in the community. EPA also continues to assist indoor air screenings in homes. To date, 578 homes have been screened with no exceedances for residential air quality standards.

Public Drinking Water Sampling

East Palestine public drinking water testing results confirm that there is no indication of risk to East Palestine public water system customers. Treated drinking water shows no detection of contaminants associated with the derailment.

Residential Private Well Sampling

The Columbiana County Health District continues to sample private water wells. To date, a total of 121 wells have been sampled in Ohio and Pennsylvania.

Derailment Site Soil

EPA continues to support Ohio EPA in the state's ongoing and future cleanup activities for the incident, including water quality efforts. EPA collected soil and sediment samples at the derailment site for analysis for volatile organic compounds (VOCs), semi-

volatile organic compounds (SVOCs), gasoline range organic compounds, diesel range organic compounds, and oil range organic compounds. Visit Ohio EPA for more updates. <<https://epa.gov/epa.ohio.gov/monitor-pollution/pollution-issues/east-palestine>>

Waste Disposal

EPA issued a directive to Norfolk Southern on Friday, February 24th, to accelerate cleanup of the train derailment site. Under this February 24th directive, waste disposal plans, including disposal location and transportation routes for contaminated waste, are subject to EPA review and approval moving forward. This directive is an important step in the transition from a state-led emergency response phase of the response to an EPA-led clean up phase. EPA has decades of experience dealing with hazardous waste – both from cleaning up contaminated sites to regulating the landfills where it's disposed of.

As we continue to identify EPA-certified facilities that can accept this waste, some of the liquid waste will be sent to a facility in Vickery, Ohio, tomorrow, February 27, where it will be disposed of in an underground injection well. Tomorrow morning, Norfolk Southern will also begin shipping solid waste to the Heritage incinerator in East Liverpool, Ohio. This means the cleanup can continue at a rapid pace. EPA will continue working with the railroad and our state and local partners to identify other solid-waste disposal locations.

Feb. 24, 2023

EPA announced that a new hotline has been set-up to help support residents and businesses. The hotline will help provide various services, including guidance for accessing ongoing air-monitoring, water sampling, as well as information about scheduling cleaning services. Those seeking assistance can contact 866-361-0526 from 8 am to 8 pm EST.

Norfolk Southern has agreed to comply with EPA's order to conduct all necessary actions associated with the cleanup of the derailment. EPA's order marks the transition of the multi-agency response from its emergency phase to a longer-term remediation phase.

EPA has conducted 574 home re-entry screenings to date and continues air monitoring at 15 stations within the community. Two more Summa air sampling canisters were deployed and two were collected from the previous day of deployment.

Read our East Palestine Joint Information Update press release

<[https://epa.gov/system/files/documents/2023-](https://epa.gov/system/files/documents/2023-02/east%20palestine%20joint%20information%20update%20%2024_23_0.pdf)

[02/east%20palestine%20joint%20information%20update%20%2024_23_0.pdf](https://epa.gov/system/files/documents/2023-02/east%20palestine%20joint%20information%20update%20%2024_23_0.pdf)>

Feb. 22, 2023

Yesterday, EPA issued an order to Norfolk Southern to conduct and pay for all cleanup actions associated with the train derailment. This order marks the transition of the multi-agency response from its “emergency phase” to a longer-term remediation phase. To help implement the order, EPA will establish a “unified command structure” to coordinate the clean-up related efforts of FEMA, HHS, Ohio EPA, Ohio EMA, PA DEP, as well as Norfolk Southern. This approach is frequently used in situations where multiple agencies need to work together. In this case, the response includes federal, state and local agencies across multiple states.

To address the concerns of residents regarding potential indoor contamination, EPA will offer cleaning services to area businesses and families – which EPA will be reimbursed for by Norfolk Southern. In the coming days, we will be adding a form to our website so residents and business owners can indicate interest in this cleaning service.

Feb. 21, 2023

News Release: EPA Orders Norfolk Southern to Conduct All Cleanup Actions Associated with the East Palestine Train Derailment <<https://epa.gov/newsreleases/epa-orders-norfolk-southern-conduct-all-cleanup-actions-associated-east-palestine>>

EPA order comes as state-led emergency response transitions to environmental cleanup phase; EPA will continue to work with local, state, and federal partners to ensure the health and safety of East Palestine community.

 Administrative Order to Norfolk Southern Railway Co. for Removal Actions (pdf)

<[https://epa.gov/system/files/documents/2023-](https://epa.gov/system/files/documents/2023-02/02%2021%2023%20norfolk%20southern%20removal%20uao%20-%20signature%201-508checked.pdf)

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(2.87 MB, February 21, 2023)

Feb. 20, 2023

Air Monitoring & Indoor Air Screening: EPA continues to operate its real-time community air monitoring network 24 hours a day. Air quality in the community remains normal according to air monitoring data. EPA is also collecting air samples daily at locations near the incident location and upwind. Preliminary analysis of air laboratory data is consistent with real-time air monitoring, indicating no air quality issues. EPA is releasing preliminary air sampling results from East Palestine as they become available. EPA will post final data as it becomes available.

EPA also continued to assist with indoor air screenings in homes yesterday. To date, 551 homes have been screened with no exceedances for residential air quality standards. As of this morning, EPA has completed all scheduled appointments. We will continue to offer the service to any resident within the evacuation zone who wants a screening.

Water: The Village of East Palestine's municipal well water sample results show no water quality concerns. The Columbiana County Health District continues to sample private water wells. A total of 56 wells have been sampled to date, 53 in Ohio, and 3 in Pennsylvania.

EPA will continue to be available to collect additional surface water samples as requested by other responding agencies that are also collecting their own samples. There were no requests made for EPA to collect surface water samples yesterday.

Derailment Site Cleanup: EPA is providing support to Ohio EPA as they lead ongoing and future cleanup activities for the incident, including water quality efforts.

Norfolk Southern continued scrapping and removing rail cars at the derailment location, excavating contaminated areas, removing contaminated liquids from affected storm drains, and staging recovered waste for transportation to an approved disposal facility. Water continues to be diverted from the upstream wetland area to Sulphur Run.

Feb. 19, 2023**Air Monitoring & Indoor Air Screening**

EPA continues real-time air monitoring and collecting air samples throughout the community. Air monitoring and sampling will continue until removal of heavily contaminated soil in the derailment area is complete and odors subside in the community.

EPA also continues to assist indoor air screenings in homes. To date, 533 homes have been screened with no exceedances for residential air quality standards. There are 15 homes scheduled for indoor air screening today.

Drinking Water

The Village of East Palestine's municipal well water sample results show no water quality concerns. The Columbiana County Health District continues to sample private water wells. To date, 52 wells have been sampled, 49 in Ohio, and 3 in Pennsylvania.

Norfolk Southern is supplying bottled water at their Family Assistance Center. For more information about the center, including location and operating hours please, visit Norfolk Southern's website .

Derailment Site Soil

EPA continues to support Ohio EPA in the state's ongoing and future cleanup activities for the incident, including water quality efforts.

Norfolk Southern continued scrapping and removing rail cars at the derailment location, excavating contaminated areas, removing contaminated liquids from affected storm drains, and staging recovered waste for transportation to an approved disposal facility. Water continues to be diverted from the upstream wetland area to Sulphur Run.

Feb. 18, 2023**Air Monitoring and Indoor Air Screening**

EPA continues real-time air monitoring and collecting air samples throughout the community. Air monitoring and sampling will continue until removal of heavily contaminated soil in the derailment area is complete and odors subside in the community.

EPA also continues to assist indoor air screenings in homes. To date, 525 homes have been screened with no exceedances for residential air quality standards. There are 14 more homes scheduled for indoor air screening this weekend.

Municipal Water

Ohio EPA has released water sampling results from the Village of East Palestine for its municipal well. The results show no water quality concerns. The Columbiana County Health District continues to sample private water wells. To date, 48 wells have been sampled, 45 in Ohio, and 3 in Pennsylvania. Norfolk Southern is supplying bottled water at their Family Assistance Center. For more information about the center, including location and operating hours, please visit Norfolk Southern's website .

Derailment Site Soil

EPA continues to support Ohio EPA oversee emergency remediation efforts at the derailment site. Emphasis is being placed on recovery of all pooled liquids, excavation of heavily contaminated soil, and removal of all remaining railcars. In order to capture any contamination leaving the site, Norfolk Southern established a containment area in a section of Sulphur Creek to divert all up-stream water around the containment area. The containment area has effectively cut off introduction of additional contamination into Sulphur Creek.

Feb. 16, 2023

Today, EPA Administrator Michael Regan will be arriving in East Palestine, OH to assess the ongoing response to the Norfolk Southern train derailment. The Administrator will meet with city, state, and federal leaders involved in the response; hear directly from

residents about the impacts of the crisis; and discuss EPA's work to ensure the health and safety of the community.

As of the evening of Feb. 15, EPA has completed screening 486 homes, with 14 scheduled for today.

Test results from the village's municipal well sampling showed no water quality concerns. Governor DeWine issued a press release stating the municipal water is safe to consume.

Ohio EPA recommends that those who receive drinking water from private water wells schedule an appointment for well water testing. Residential private well sampling – conducted by Columbiana County General Health District – has completed 28 to date, with 2 scheduled for today. For information on how to schedule your private water well for testing, call 330-849-3919. The Ohio Department of Health encourages those with private wells to use bottled water until their well water testing results are returned.

Last night, Regional Administrator Debra Shore attended a community meeting alongside EPA on-scene coordinators and state and local officials to hear residents' concerns.

Feb. 15, 2023

On the evening of Feb. 14, EPA have completed 459 homes that have been screened with 28 scheduled for today. The total drinking water wells sampled to date is 21. EPA community air monitoring continues throughout the community.

Norfolk Southern is providing bottled water at their Family Assistance Center located at Abundant Life Church 46469 State Route 46, Waterford, OH. In Addition, Norfolk Southern is bringing in bottled water to East Palestine and the City of East Palestine will help distribute as needed.

Feb. 14, 2023

Earlier this afternoon, EPA Regional Administrator Debra Shore issued a statement on the emergency response at East Palestine, Ohio.

Regional Administrator Debra Shore East Palestine Train Derailment Press Release

<<https://epa.gov/newsreleases/statement-regional-administrator-debra-shore-east-palestine-train-derailment>>

On the evening of Feb. 13, EPA discontinued air monitoring for phosgene and hydrogen chloride community air monitoring. After the fire was extinguished on Feb. 8, the threat of vinyl chloride fire producing phosgene and hydrogen chloride no longer exists. EPA will continue 24-hour community air monitoring for other chemicals of concern.

As of end of the day February 13th, EPA has screened indoor air at 396 homes, with 100 homes remaining, and 65 homes on the schedule for today.

Feb. 13, 2023

Re-Entry air screenings are underway. Community air monitoring will continue operating 24 hours a day. As of yesterday evening, 291 homes have been screened. To date, no detections of vinyl chloride or hydrogen chloride were identified for the completed screened homes. There are 181 homes that remain to be screened.

EPA has deployed two more Summa air sampling canisters for continuous sampling. Local schools and the library were screened yesterday.

US EPA's network of air monitoring stations throughout the East Palestine area did not detect anything above the action level.

Feb. 12, 2023

EPA has posted a document from Norfolk Southern (pdf)

<<https://epa.gov/system/files/documents/2023-02/train%2032n%20-%20east%20palestine%20-%20derail%20list%20norfolk%20southern%20document.pdf>> listing the cars that were involved in the derailment and the products they were carrying.

EPA was initially informed orally of the contents of derailed cars in order to develop a plan for air monitoring. Upon request, Norfolk Southern provided the attached list detailing the rail cars that may have derailed in the incident. This was created by Norfolk Southern and EPA cannot speak to the design or creation of this document.

Air Monitoring

EPA continues to conduct air monitoring throughout the East Palestine community. Air monitoring since the fire went out has not detected any levels of concern in the community that can be attributed to the incident at this time. For example, there have been some exceedances of PM_{2.5} screening values, but those are both upwind and downwind of the derailment site so likely had another cause.

Residents may still smell odors from the site. If you experience symptoms, Columbiana County Health Department recommends calling your medical provider.

The duration of community air monitoring will be guided using a data- and evidence-based approach. As information continues to be collected, EPA, in consultation with local authorities, will develop a plan to eventually phase out community air monitoring.

Indoor Air Screening

EPA provided air monitoring data to health agencies and the local fire department to make the determination whether residents could return to their homes. EPA air monitoring devices used for indoor air screening as part of the voluntary home screening effort can detect vinyl chloride and other chemicals of concern from the derailment.

As of yesterday evening, 210 homes have been screened. To date, no detections of vinyl chloride or hydrogen chloride were identified for the completed screened homes. There are 218 homes that still remain to be screened.

Screening levels

Screening levels or exposure limits are concentrations of specific chemicals in media (air, water, soil). ATSDR uses screening levels to determine if more evaluation is needed. Levels above a minimal risk level are not necessarily harmful; the potential for harm depends on how high the levels were and how long the exposure lasted, along with personal traits and habits.

General screening levels for chemicals are established by health professionals and organizations such as the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substance and Disease Registry (ATSDR) in conjunction with state

health departments. These general numbers help guide health and safety for workers and the community during the response.

Feb. 11, 2023

EPA has issued a general notice of potential liability letter to Norfolk Southern to document the release or threat of release of hazardous substances, pollutants or contaminants to the environment following the train derailment. The letter outlines EPA cleanup actions at the site and the potential to hold the railroad accountable for associated costs. The letter can be found under the Documents section of this website <<https://epa.gov/oh/east-palestine-ohio-train-derailment-emergency-response#documents>>.

EPA continues to assist Norfolk Southern and Columbiana Emergency Management Agency with voluntary residential air screening. As of last night, 105 residential homes have had their indoor air screened.

Feb. 10, 2023

EPA is assisting with voluntary residential air screening appointments offered by Norfolk Southern. As of last night, crews have screened indoor air at a total of 46 homes. There are over 400 requests for indoor air screening remaining. To increase the rate of screening, Norfolk Southern—with EPA assistance—is bringing more teams and equipment to East Palestine.

Ohio EPA is leading efforts to investigate and remediate impacts to water. To support these efforts, EPA took water samples in Sulphur Run and will collect more samples of surface water at several points of nearby water streams.

Norfolk Southern contractors installed a dam and a water bypass at Sulphur Run to prevent further contamination of downstream waters. They have also stopped spillage of remaining spilled product onto the stream.

Feb. 9, 2023

EPA continued stationary and roaming air monitoring surrounding the derailment scene. Air monitoring will follow through the weekend

EPA field teams are attending voluntary residential air screening appointments offered by Norfolk Southern. Appointment scheduling and data management is being conducted by CTEH, contractor for Norfolk Southern.

EPA is working with Ohio EPA to investigate remaining soil contamination at the site of the derailment and impacts to surface water. EPA collected samples of spilled material near the derailment site and in Sulphur Run.

Feb. 8, 2023

EPA continued stationary and roaming air monitoring surrounding the derailment scene

Yesterday, the 52nd Civil Service Team conducted air monitoring in three public administration buildings and collected air samples from each building.

Air monitoring and air sampling are two different methods of looking at air quality:

- **Air monitoring** utilizes devices to provide real-time readings of general levels of airborne contaminants.
- **Air Sampling** involves collecting an air sample over a period of time, then sending it to a laboratory for analysis for a wide range of contaminants to more accurately detect, identify and quantify specific chemical compounds. This process takes longer because there are more steps involved (collection, shipment, analysis, validating data, generating reports).

EPA and Ohio EPA inspected the wreck site and found spilled materials in Sulphur Run. Oily product was found leaking from a tank car and pooling on to the soil. Norfolk Southern was notified of the spill and began removing the product using a vacuum truck.

Last night, EPA investigated a complaint of odors from the Darlington Township, Pennsylvania fire station. A team with air monitoring equipment was dispatched to the station, where they did not observe any contaminants above detection limits.

At around 9 p.m. last night, air monitoring instruments detected increased concentrations of volatile organic compounds (VOCs) downwind of the derailment fire, but they remained below the screening level for VOCs.

Fires in two rail cars containing non-hazardous cargo increased in intensity as Norfolk Southern continued work in the cars. Particulate matter was the only parameter detected above screening levels. EPA collected two air samples for analysis at its mobile laboratory.

EPA is providing assistance to health departments in developing residential screening procedures. Read more about particulate matter. <<https://epa.gov/pm-pollution/particulate-matter-pm-basics>>

Feb. 7, 2023

During Norfolk Southern's controlled burn yesterday of rail cars containing vinyl chloride, EPA air monitoring detected particulate matter resulting from the fire.

EPA air monitoring did not detect chemical contaminants of concern in the hours following the controlled burn.

Residents in the area and tens of miles away may smell odors coming from the site. This is because the byproducts of the controlled burn have a low odor threshold. This means people may smell these contaminants at levels much lower than what is considered hazardous.

EPA continues to perform air monitoring throughout the community. This morning, EPA's ASPECT (Airborne Spectral Photometric Environmental Collection Technology) <<https://epa.gov/emergency-response/aspect-airborne-spectral-photometric-environmental-collection-technology-fact>> plane conducted a flyover to gather additional data regarding air quality.

EPA is currently working with Norfolk Southern, health departments and other responding agencies to develop procedures for safely reoccupying the evacuated areas.

Feb. 6, 2023**Air Monitoring and Sampling**

Last night, a change in operations prompted EPA to assess air monitoring and air sampling locations. EPA moved air monitoring stations in preparation for a planned burn of affected rail cars, and resumed real-time air monitoring operations this afternoon. Prior to the relocation, air monitoring readings were below detection levels for most contaminants, except for particulate matter.

In addition to real-time air monitoring, EPA is collecting air samples in conjunction with the 52nd Civil Support Team—a specialized unit of the Ohio National Guard—for onsite and laboratory analysis.

Affected Water Streams

Ohio EPA is leading efforts to investigate and address impacts to Sulphur Run and Leslie Run.

Feb. 5, 2023**Air Monitoring**

EPA community air monitoring readings did not detect any contaminants of concern other than particulate matter on Feb. 5. Norfolk Southern's contractor has also been conducting air monitoring in both the community and near/in work zones. Low levels of VOCs have been detected for brief periods in the community near the work zones and staging areas. Roaming air monitoring teams conducted additional air monitoring in these areas to verify localized readings. Additionally, low levels of VOCs and nitrogen dioxide have been detected within the active work zones. Initial air sample results are expected by Feb. 8 with additional samples being shipped off to a contract lab for analysis.

Water Runoff

Recovery operations utilizing a vacuum truck and sorbent pads are ongoing. Aeration pumps began operating at three locations along Sulphur Run and the confluence with Leslie Run. The East Palestine Water Treatment Plant confirmed there were no adverse

effects to the treatment plant. EPA and Norfolk Southern contractors have collected surface water samples for analysis. Results are not expected until Feb. 7-8.

Feb. 4, 2023

Environmental Protection Agency is responding to the site of the February 3 train derailment in East Palestine, Ohio. EPA On-Scene Coordinators and contractors are conducting fixed and roaming air monitoring and providing technical assistance to the East Palestine Fire Department and other responding agencies. Measures are also being taken to sample and mitigate any possible impacts from runoff from the fire to the Sulphur Run and Leslie Run streams.

Air Monitoring

EPA deployed real-time air monitoring instruments in 12 locations surrounding the fire and in the neighboring community. In addition, one air sample was collected in downtown East Palestine for laboratory analysis. EPA is monitoring for volatile organic compounds (also known as VOCs) including vinyl chloride and butyl acrylate. EPA is also monitoring levels of carbon monoxide, oxygen, hydrogen sulfide, hydrogen cyanide, phosgene, and hydrogen chloride, as well as measuring the flammability of gases in the perimeter.

In addition to the fixed air monitoring stations, handheld monitors are being used to monitor areas of significant odor. Butyl acrylate has a low odor threshold of 0.035 parts per million (ppm), which means people can smell it in the air even at very low levels. In comparison, current screening levels for used on the incident for any VOCs is 0.1 ppm.

Water Runoff

Responding crews discovered contaminated runoff on two surface water streams: Sulphur Run and Leslie Run. Under Ohio EPA oversight, Norfolk Southern emergency response contractors installed booms and underflow dams to restrict the flow of contaminated water as well as contain and collect floating product.

EPA took water samples at the streams and has sent them to a laboratory for analysis. Emergency response staff noticed impacted aquatic life and notified the Ohio

Department of Natural Resources and the Department of Interior. Ohio DNR is on site and is assessing the situation and the impacts to aquatic life. Downstream water utilities were also notified.

Contact Us <<https://epa.gov/oh/forms/contact-us-about-epa-ohio>> to ask a question, provide feedback, or report a problem.

LAST UPDATED ON MARCH 6, 2023



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USDOT Response to East Palestine derailment

Technical assistance provided to EPW Committee staff on 3/6/2023

FRA and PHMSA investigators were on the ground within hours of the Norfolk Southern train derailment in East Palestine, Ohio, on February 3, 2023. The agencies are supporting the investigation being led by the National Transportation Safety Board, an independent agency.

FRA Administrator Bose and PHMSA Deputy Administrator Brown were on the ground on February 22nd, 2023. <https://www.transportation.gov/briefing-room/readout-federal-railroad-administration-and-pipeline-and-hazardous-materials-safety>

Secretary Buttigieg traveled to East Palestine on February 23rd.

More information on USDOT's response is available at: <https://www.transportation.gov/briefing-room/matter-weeks-usdot-sees-significant-moves-toward-stronger-rail-safety-standards-and>

In Matter of Weeks, USDOT Sees Significant Moves Toward Stronger Rail Safety Standards and Accountability

Friday, March 3, 2023

Strong first steps from rail industry and Congress must be backed up with continued action to ensure safer communities and safer working conditions in the long-term

WASHINGTON, DC – As local, state, and federal environmental agencies continue to address air, water and soil quality concerns on the ground in East Palestine, Ohio, the U.S. Department of Transportation is marking significant early progress on its efforts to hold the rail industry accountable and to work with Congress on key rail safety reforms that will **improve safety for communities and rail workers in the long-term.**

Last month, Secretary Buttigieg [put Norfolk Southern on notice](#) for needed safety reforms and called for an end to the rail industry's "vigorous resistance"

to increased safety measures, which in the past has included lobbying and litigation to kill commonsense rail safety reforms.

Then, 10 days ago, with the newfound, bipartisan interest in rail safety reform in the aftermath of the Norfolk Southern derailment in East Palestine, Secretary Buttigieg laid out a [three-part drive](#) to spur action in the rail industry and Congress, and to further enhance work already underway at USDOT. As Secretary Buttigieg told KDKA in Pittsburgh: **“This is a moment when we can get more done than would’ve been thought possible before in terms of having the highest standards of accountability and safety for the sake of communities, and of course for workers.”**

Over the past few weeks, this progress includes:

- **Bipartisan legislation:** The Senate proposal, [endorsed by President Biden](#), includes provisions that Secretary Buttigieg called for in the three-part drive, like increasing fines on industry for safety violations, strengthening rules for trains carrying hazardous materials, increasing funding for hazmat training, accelerating the timeline to phase in more robust tank cars, and ensuring a two-person crew minimum on trains.
- **Targeted Track Inspections:** DOT’s Federal Railroad Administration (FRA) [announced targeted track inspections](#), focusing on routes that carry hazardous materials, that will start in East Palestine and expand nationwide.
- **Rail Worker Whistleblower Program:** After Secretary Buttigieg pressed them, all seven Class I freight railroads have [agreed to participate](#) in the Confidential Close Call Reporting System (C3RS) program for rail employees to help prevent safety issues.
- **Meeting with labor leaders:** USDOT leadership gathered leaders from unions representing tens of thousands of rail employees to hear safety concerns, both short- and long-term. USDOT’s three-part approach includes a push to guarantee paid sick leave for all rail workers.
- **Safety Advisory for Tank Car Covers:** DOT’s Pipelines and Hazardous Materials Safety Administration (PHMSA) acted on initial findings from the independent investigator (NTSB) into the Norfolk Southern derailment and issued a [safety advisory notice](#) for tank car covers.
- **Safety Advisory for Hot Bearing Wayside Detectors:** FRA urged railroads using hot bearing detectors (HBDs) to evaluate their inspection process, prioritize the proper training and qualification of personnel working with HBDs, and improve the safety culture of their organizations.

- **Safety Advisory for Emergency Response Plans:** PHMSA urged all railroad operators to create and maintain emergency response plans for the transport of hazardous materials, strengthen the accessibility of the AskRail system, and inform PHMSA when they identify responders who are not able to access PHMSA's grant-funded training. The full advisory can be found [here](#).

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In Matter of Weeks, USDOT Sees Significant Moves Toward Stronger Rail Safety Standards and Accountability

Friday, March 3, 2023

Strong first steps from rail industry and Congress must be backed up with continued action to ensure safer communities and safer working conditions in the long-term

WASHINGTON, DC – As local, state, and federal environmental agencies continue to address air, water and soil quality concerns on the ground in East Palestine, Ohio, the U.S. Department of Transportation is marking significant early progress on its efforts to hold the rail industry accountable and to work with Congress on key rail safety reforms that will **improve safety for communities and rail workers in the long-term**.

Last month, Secretary Buttigieg [put Norfolk Southern on notice](#) for needed safety reforms and called for an end to the rail industry's "vigorous resistance" to increased safety measures, which in the past has included lobbying and litigation to kill commonsense rail safety reforms.

Then, 10 days ago, with the newfound, bipartisan interest in rail safety reform in the aftermath of the Norfolk Southern derailment in East Palestine, Secretary Buttigieg laid out a [three-part drive](#) to spur action in the rail industry and Congress, and to further enhance work already underway at USDOT. As Secretary Buttigieg told KDKA in Pittsburgh: **"This is a moment when we can get more done than would've been thought possible before in terms of having the highest standards of accountability and safety for the sake of communities, and of course for workers."**

Over the past few weeks, this progress includes:

- **Bipartisan legislation:** The Senate proposal, [endorsed by President Biden](#), includes provisions that Secretary Buttigieg called for in the three-part drive, like increasing fines on industry for safety violations, strengthening rules for trains carrying hazardous materials, increasing funding for hazmat training, accelerating the timeline to phase in more robust tank cars, and ensuring a two-person crew minimum on trains.
- **Targeted Track Inspections:** DOT's Federal Railroad Administration (FRA) [announced targeted track inspections](#), focusing on routes that carry hazardous materials, that will start in East Palestine and expand nationwide.
- **Rail Worker Whistleblower Program:** After Secretary Buttigieg pressed them, all seven Class I freight railroads have [agreed to participate](#) in the Confidential Close Call Reporting System (C3RS) program for rail employees to help prevent safety issues.
- **Meeting with labor leaders:** USDOT leadership gathered leaders from unions representing tens of thousands of rail employees to hear safety concerns, both short- and long-term. USDOT's three-part approach includes a push to guarantee paid sick leave for all rail workers.
- **Safety Advisory for Tank Car Covers:** DOT's Pipelines and Hazardous Materials Safety Administration (PHMSA) acted on initial findings from the independent investigator (NTSB) into the Norfolk Southern derailment and issued a [safety advisory notice](#) for tank car covers.
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Background:

Investigators from DOT’s FRA and PHMSA were on the ground within hours of the Norfolk Southern train derailment in East Palestine, Ohio, on February 3, 2023. The agencies are supporting the investigation being led by the National Transportation Safety Board, an independent agency. For more on the federal response and jurisdiction, see [here](#).

To get the latest information on the investigation, please visit NTSB’s [website](#).

###

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



March 2, 2023

The Honorable Sherrod Brown
U.S. Senate
Washington, D.C. 20510

The Honorable J.D. Vance
U.S. Senate
Washington, D.C. 20510

Dear Senators Brown and Vance:

Thank you for your letter dated February 18, 2023, concerning the Norfolk Southern train derailment in East Palestine, Ohio. The train derailment has caused the people of East Palestine to suffer a terrible trauma. The health and safety of this community has been, and will continue to be, a top priority for the U.S. Environmental Protection Agency (EPA) and the Ohio Environmental Protection Agency (OEPA). We look forward to working with you and other partners across all levels of government to continue to support the community's residents and business owners and to hold Norfolk Southern accountable for the damage it has caused.

Your letter, attached for reference, recognizes the swift responses to the incident provided by agencies including EPA and OEPA. Your letter also acknowledges the extensive air monitoring undertaken by EPA to ensure that local residents remain protected from hazardous air pollutants arising from the incident. As you note, community members have expressed concerns about the possible release of and testing for dioxins in the local area. During Administrator Regan's visit to East Palestine earlier this week, he heard these concerns directly from residents. The input and perspective of the community continues to be essential to EPA's response efforts. To that end, we write to outline EPA's approach to responding to the concerns we have heard on the ground and to protecting all community members from dangerous exposures to dioxins and any other potential pollutants associated with the train derailment in East Palestine.

EPA's approach to addressing community concerns for dioxins so far has focused on sampling and analysis for "indicator chemicals" such as chlorobenzenes and chlorophenols that would suggest the potential for the release of dioxins attributable to the derailment. EPA is currently analyzing for 19 chlorobenzene and chlorophenol compounds in the area of East Palestine. As of February 28, EPA has collected at least 115 samples in the potentially impacted area, to include samples of air, soils, surface water, and sediments.

To date, EPA's monitoring for indicator chemicals has suggested a low probability for release of dioxin from this incident. EPA's air has detected only low levels of 1,4-dichlorobenzene typical of ambient background concentrations. One sample of surface water from Sulfur Run exceeded the reporting limit of 4-chloraniline, but attributing a single instance of this chemical to the train incident is difficult. There was one detection twice the reporting limit of pentachlorophenol in a soil sample, and this detection is consistent with the existence of railroad ties.

To address any continuing concerns for potential release of dioxins in the local area resulting from the derailment, out of an abundance of caution EPA will continue to sample for indicator chemicals and will also require Norfolk Southern to begin sampling directly for dioxins. If dioxins are found in the area including East Palestine, EPA will share the information with the public, determine whether the level of contaminants found poses any unacceptable risk to human health and the environment and direct the immediate cleanup of the area as needed, in coordination with OEPA, Pennsylvania Department of Environmental Protection, and other partners.

As we begin sampling for dioxins in soils, we know that dioxins may be found in any urban or rural environment as a result of common processes such as burning wood or coal. Dioxins break down slowly in the environment, so the source of dioxins found in any area may be uncertain. To address related questions, EPA will require Norfolk Southern to conduct a background study to compare any dioxin levels around East Palestine to dioxin levels in other areas not impacted by the train derailment. EPA is also currently reviewing a draft plan by Norfolk Southern to develop a dioxin "fingerprint" for soil sampling. EPA anticipates that developing a dioxin fingerprint for East Palestine will require use of certified laboratories that can perform high-resolution gas chromatography and mass spectrometry to identify various isomers of dioxins. If this dioxin fingerprint can be developed with reliable methodologies, it will help EPA determine whether any dioxin particularly from the train derailment and controlled burn impacted the local environment.

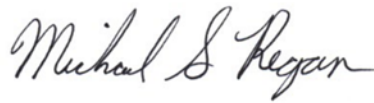
In any event, regardless of the source of any pollutant that might be found in the area, EPA retains full enforcement authorities and technical resources to ensure the ultimate protection of human health and the environment. Technical resources currently deployed to East Palestine include EPA's Trace Atmospheric Gas Analyzer ([TAGA](#)) bus, which allows for real-time mobile air monitoring, and EPA's Portable High-throughput Integrated Laboratory Identification System ([PHILIS](#)), which allows for sophisticated laboratory analysis. To facilitate community information and engagement with our work, we have also established tools including a [website](#), an information line at (866) 361-0526, and, most recently, a Community Welcome Center at 25 North Market St. in East Palestine, providing a one-stop-shop for community information, open daily 8 am to 8 pm.

As we go forward with our work in East Palestine, and surrounding areas of Ohio and Pennsylvania, EPA will continue to monitor for any hazardous pollutants, including dioxins, that may be attributed to the train incident. We will also continue to hold Norfolk Southern responsible for the environmental harm it has inflicted on this community. At EPA, we are

guided by the belief that all people in the United States of America deserve clean air to breathe, clean water to drink, and the opportunity to lead a healthy life. The people of East Palestine, Ohio, deserve no less, and EPA is committed to supporting this community for as long as it may take.

Thank you for your interest in this matter.

Sincerely yours,


Handwritten signature of Michael S. Regan in black ink.

Michael S. Regan
Administrator
U.S. Environmental Protection Agency

Handwritten signature of Anne M. Vogel in black ink.

Anne M. Vogel
Director
Ohio Environmental Protection Agency

Ohio train derailment is a reminder of plastic's dangers

 [latimes.com/opinion/story/2023-03-07/train-derailment-ohio-east-palestine-plastics](https://www.nytimes.com/opinion/story/2023-03-07/train-derailment-ohio-east-palestine-plastics)

Rebecca Fuoco, David Rosner and Gerald Markowitz

March 7, 2023 3 AM PT

A black plume rises over East Palestine, Ohio, as a result of a controlled detonation of a portion of the derailed Norfolk Southern on Feb. 6.

By Rebecca Fuoco, David Rosner and Gerald Markowitz

Images of dead fish floating in murky water and menacing plumes of gray smoke are haunting the nation's front pages. Interviews with distressed residents are interspersed with exasperated talking heads on our television screens. A month after the train derailment disaster in East Palestine, Ohio, America continues to bear witness to the community's suffering.

Though any fiery train wreck is hazardous, this one was particularly catastrophic given the chemicals onboard. Chief among them was cancer-causing vinyl chloride gas, which officials intentionally released into the surrounding air to avoid an explosion. Residents were evacuated during this operation, but long-term pollution and exposure concerns remain. Just last week the Environmental Protection Agency ordered the railway to test the air for dioxins, which can also cause cancer and linger in the environment long after vinyl chloride and other plastic chemicals are burned.

Soon the camera crews will pack up and public attention will shift to the next big story. But for East Palestine, the story is just beginning, and the following chapters are likely to be grim. We know because the same chemical contaminated — and eventually destroyed — several towns in Louisiana decades ago.

Neglecting infrastructure that makes U.S. society function — like public transportation — endangers our ability to respond in the case of a disaster or attack.

Morrisonville, La., was founded after the Civil War by freedmen and blossomed into a vibrant, predominantly African American community. But in 1958, chemical giant Dow built a vinyl chloride plant near the river, displacing the town's sugar and cotton plantations. Demand for PVC plastic — the main product manufactured with vinyl chloride — grew, and the plant further encroached on the community. As one resident put it to the Times-Picayune at the time, the plant was right "on top of us." Blaring sirens warning of toxic releases soon became a part of daily life. During these events, residents were told to close windows and doors and huddle inside to avoid breathing in too much of the toxic fumes.

PVC is ubiquitous, used in products as wide-ranging as toys and pipes. But it's also very replaceable. Materials experts say that alternatives including glass, ceramics, linoleum and polyesters are feasible substitutes in most cases. That's why it would be a common-sense move for the government to restrict all nonessential uses of PVC, giving way to a phaseout of vinyl chloride production.

PVC has already been banned in most food packaging in Canada and South Korea, and legislation to ban it has been floated in California. However, more comprehensive action is needed on PVC — and on the larger plastics crisis. Two months before the derailment, the United Nations kicked off negotiations for a global treaty to limit the production and use of plastic. The Ohio disaster is a stark reminder of plastic's human costs and should energize calls to make this treaty as strong as possible.

Until then, vinyl chloride and plastics plants will continue to poison air and send toxic trains barreling across America's railways. What's at stake is the health of nearby residents, their communities and the environment. History has shown that this dirty industry risks turning even the liveliest small communities into ghost towns.

Rebecca Fuoco is the director of science communications at the Green Science Policy Institute. David Rosner, a professor of sociomedical sciences and history at Columbia, and Gerald Markowitz, a history professor at John Jay College of Criminal Justice, are the authors of "Deceit and Denial: The Deadly Politics of Industrial Pollution."

The New York Times | <https://www.nytimes.com/2023/02/19/opinion/train-ohio-chemical.html>

GUEST ESSAY

This Deadly Chemical Should Be Banned

Feb. 19, 2023

By Rebecca Fuoco, David Rosner and Gerald Markowitz

Ms. Fuoco is the director of science communications at the Green Science Policy Institute. Dr. Rosner is a professor of sociomedical sciences and history at Columbia. Dr. Markowitz is a history professor at John Jay College of Criminal Justice.

Like a scene out of some postapocalyptic movie, Gov. Mike DeWine of Ohio convened a news conference on Feb. 5 to deliver a stark warning. “We are ordering them to leave,” he said of residents of the small rural community of East Palestine, Ohio, and a neighboring part of Pennsylvania. “This is a matter of life and death.” To emphasize the point, he added: “Those in the red area are facing grave danger of death if they are still in that area.”

In this case, the “grave danger of death” was not a zombie fungus or lethal bacteria but chemicals. The red area was an area one mile by two miles surrounding the town, on the Ohio-Pennsylvania border about 40 miles northwest of Pittsburgh.

Two days earlier, it was the site of a fiery derailment of train cars carrying the gas vinyl chloride and other chemicals. Freight trains typically transport more than two million carloads of hazardous materials each year, including many chemicals. Vinyl chloride is particularly dangerous and increasingly common, used primarily to make polyvinyl chloride, better known as PVC, a hard plastic resin used to produce pipes, wire, cable coatings and packaging. We should begin phasing out the use of this chemical.

It was a particular concern in East Palestine after the derailment. Because vinyl chloride is so flammable, it created a risk of an explosion that could launch deadly shrapnel as far as a mile. To avoid such a catastrophe, railroad officials vented the vinyl chloride and burned it off.

But shrapnel wasn’t the only risk. Inhaling vinyl chloride fumes can be deadly. Even people in neighboring towns were at risk. On Feb. 10, seven days after the crash, the

In addition to the manufacturing and transportation risks of vinyl chloride, PVC plastics can release endocrine-disrupting [phthalates](#), used to soften PVC, and cancer-causing [dioxins](#) into air and water during much of their life cycle.

Many of the vinyl chloride and PVC production facilities are clustered with other petrochemical facilities along an 85-mile stretch of the Mississippi River in Louisiana between Baton Rouge and New Orleans known as [Cancer Alley](#). People in one town in the area, most of whom are Black, have about [50 times the risk of developing cancer](#) as the average American. They face the constant threat of chemical accidents.

The PVC plastics industry is [expanding](#) in other parts of the country. Growing plastics hubs in Ohio, Pennsylvania and West Virginia could become new cancer alleys.

As long as PVC production continues, the risk of vinyl chloride spills will persist. Worse, more workers and communities will be exposed to the ticking time bombs of cancer and other severe health harms.

[Rebecca Fuoco](#) is the director of science communications at the Green Science Policy Institute. [David Rosner](#) is a professor of sociomedical sciences and history at Columbia. [Gerald Markowitz](#) is a history professor at John Jay College of Criminal Justice. Drs. Rosner and Markowitz are the authors of "Deceit and Denial: The Deadly Politics of Industrial Pollution."

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Oil companies rely on controversial firm to rebut Colorado health study - Colorado Newsline



ENVIRONMENT HEALTH

Oil companies rely on controversial firm to rebut Colorado health study

Industry-linked CTEH downplays risks as COGCC regulators mull extended setbacks

BY: CHASE WOODRUFF - SEPTEMBER 4, 2020 3:18 PM



Playground equipment at the Bella Romero Academy school in Greeley is pictured near fracking infrastructure on June 24, 2020. (Andy Bosselman for Colorado Newsline)

One day after Colorado health officials [briefed a state rulemaking panel](#) on the potential health risks posed by oil and gas drilling, industry groups brought in an expert of their own to downplay the state's findings – and her comments were blunt.

<https://coloradonewsline.com/2020/09/04/oil-companies-rely-on-controversial-firm-to-rebut-colorado-health-study/>

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when the company was hired by BP to perform chemical testing in the wake of the Deepwater Horizon oil spill, Democrats in Congress cried foul.

“CTEH has a history of being hired by companies accused of harming public health and releasing findings defending the corporate interests that employ them,” Reps. Lois Capps and Peter Welch wrote in a letter to BP leadership. “Enlisting CTEH ... is just another indication that BP is more concerned about their own bottom line than the public’s health.”

In a statement, COGA president Dan Haley said that the organization has been “working closely with” McMullin, whom he called “incredibly knowledgeable” about the impacts of oil and gas development on public health.

“She knows what she’s talking about and she’s a straight shooter,” Haley said. “A published technical writer, graduate-level professor with over a decade of experience, her bona fides speak for themselves.”

‘Paid to say everything’s OK’

In a statement provided to Newsline by a CTEH spokesperson, McMullin said that the firm “follows well-established, scientifically-based procedures.”

“Our sampling plans are thoroughly vetted by seasoned experts, and data is analyzed based on standards and guidelines established by all applicable regulatory agencies to ensure transparent, non-biased assessments,” she said.



Our sampling plans are thoroughly vetted by seasoned experts, and data is analyzed based on standards and guidelines established by all applicable regulatory agencies to ensure transparent, non-biased assessments.

– Tami McMullin, of CTEH, in a statement

Critics, however, allege that CTEH’s work for deep-pocketed industrial interests is anything but unbiased. The New York Times reviewed the company’s [history of controversy](#) in the wake of the BP oil spill in 2010, quoting multiple environmental and engineering experts who argued that CTEH had a “vested interest in finding a clean bill of health to satisfy its corporate employer.”

After being hired by Murphy Oil to conduct testing at a refinery spill caused by Hurricane Katrina in 2005, CTEH was later faulted by environmental groups for improper sample collection procedures, and a 2008 Environmental Protection Agency audit similarly found deficiencies in the company’s air-quality monitoring at the site of a Tennessee coal ash spill. In 2006, CTEH vouched for the safety of drywall products made by Chinese firm Knauf Plasterboard Tianjin amid concerns raised by consumer groups; the manufacturer later [settled](#)

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That differs starkly from the conclusions reached in CDPHE's multi-year, peer-reviewed study, which found risks from benzene and multiple other toxic chemicals that can be emitted by industry operations. It's also at odds with years of complaints received by CDPHE and COGCC regulators from residents living near fracking sites, who have consistently reported frequent noxious odors and health effects like headaches, nosebleeds, respiratory difficulties and more.

Scientists say that air-quality studies that don't employ probabilistic modeling paint a highly incomplete picture of potential human exposures, as Kristy Richardson, Colorado's state toxicologist, explained to COGCC commissioners during a Sept. 3 briefing on the study. Even the roughly 10,000 air samples collected by the state prior to 2017, Richardson said, were "a limited data set, and it might not adequately represent community exposure."

"When we do measurements, we're always limited by the fact that we can only collect measurements in one place, or maybe a handful of places," she added. "We can't collect data about the exposure for every single community member, or every community in every direction around the well pad."

The state's 2019 study employed two modeling tools developed and recommended by the Environmental Protection Agency: [AERMOD](#), which modeled the dispersal and concentration of toxic emissions at different distances and under different conditions; and APEX, which modeled based on variables as minute as different breathing rates and a person's "microlocation" within their home, Richardson said.



A fossil fuel extraction site is visible near a home in Broomfield on June 24, 2020. (Andy Bosselman for Colorado Newsline)

"While the risk ... decreased the further away you got from the well pad, we did see an acute health risk at all distances that we modeled, from 300 to 2,000 feet," she told COGCC commissioners.

Minimum setback distances are expected to be among the most controversial issues decided by the commission [during its ongoing Mission Change rulemaking](#), a top-to-bottom overhaul of its rules required by Senate Bill 19-181, the reform bill enacted by Democrats in the Colorado Legislature last year. Setbacks were the subject of a contentious ballot fight in 2018, when a \$50 million opposition campaign bankrolled by industry groups successfully defeated a proposal, backed by anti-fracking group Colorado Rising, to establish a rigid 2,500-foot setback across the state.

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The Checkered Past of the Contractor Monitoring the Air in East Palestine

CTEH has been cited by lawmakers for 'releasing findings defending the corporate interests that employ them.'

BY DAVID DAYEN MARCH 3, 2023



GENE J. PUSKAR/AP PHOTO

A black plume and fireball rise over East Palestine, Ohio, as a result of a controlled detonation of a portion of the derailed Norfolk Southern freight train, February 6, 2023.



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Three years ago, CIEH hooked up with an “environmental solutions” giant, Montrose Environmental Group, in a private equity–funded merger. Montrose has engaged in numerous acquisitions over the past year, rolling up both the emergency environmental response space and the market for corporate and government consulting on environmental matters.

More from David Dayen

The use of a controversial contractor comes amid continued reports of sickness in the area around the derailment. The Brotherhood of Maintenance of Way Employees Division, which represents 3,000 Norfolk Southern workers, sent a letter to Secretary of Transportation Pete Buttigieg on Wednesday, explaining that union members sent to do cleanup at the site were coming down with migraines and nausea. Leaders of other unions met with Buttigieg this week to deliver the

same message.

Residents and workers near the site, both in Ohio and Pennsylvania, have spoken about similar ailments; several have received a clinical diagnosis of “acute bronchitis due to chemical fumes.” Contamination fears among residents have been rising.

Officially, the Environmental Protection Agency has reported no unusual detections of contaminants in the Ohio River, the air around East Palestine, or in screened homes. But residents have indicated that the bulk of the monitoring is being conducted by CTEH, which makes their track record relevant.

ARKANSAS-BASED CTEH has engaged in thousands of what they call “projects” across the country, including 77 in Ohio. Formed in 1997, CTEH claims to “help companies, governments, and communities prepare for, respond to, and recover from threats to their environment and people.”

It didn't take long for the company to become a go-to resource for corporations seeking to reassure residents after environmental calamities. Two industries appear to be the most prominent on the client list: oil and gas, and rail.

In 2010, then-Reps. Lois Capps (D-CA) and Peter Welch (D-VT) wrote to BP CEO Tony Hayward, warning him not to use CTEH to monitor health exposures of workers cleaning up the Deepwater Horizon spill. “CTEH has a history of being hired by companies accused of harming public health and releasing findings defending the corporate interests that employ them,” the lawmakers wrote. Welch is now serving in the U.S. Senate; his office did not return a request for comment.

The House members cited a New York Times article noting that CTEH produced clean toxicology reports after oil

spills from Katrina in Louisiana in 2005, a coal ash spill in Tennessee in 2008, and after allegations of defective Chinese drywall in Florida in 2010, pronouncements that were later called into question. CTEH even found business in Ecuador, arguing in alignment with its client Chevron that there were no cancerous agents left behind from oil drilling in the rain forest, in a long-running case that resulted in environmental activist Steven Donziger going to prison.

Critics charge that, because CTEH's employer is the company liable for damages, they have enormous incentives to underreport. "They're paid to say everything's OK," one toxicologist told the *Times*. CTEH findings have been cited by companies in litigation, and its test results have been wielded as evidence to persuade residents not to sue. In 2020, industry groups brought a CTEH toxicologist to a Colorado Oil and Gas Conservation Commission hearing, where she dismissed the risks of oil and gas drilling to nearby residents.



Critics charge that, because
CTEH's employer is the
company liable for damages,
they have enormous incentives
to underreport.

In a statement, Dr. Paul Nony, senior vice president and principal toxicologist of CTEH, insisted to the *Prospect* that the company followed prescribed federal guidelines. "Our scientists conduct environmental monitoring and sampling according to plans approved and directed by the incident commanders of each response including federal, state, and local stakeholders," Nony said. "Samples are all sent to third-party, nationally accredited environmental laboratories and analyzed by

approved methods with results provided to the relevant governmental entities.”

But CTEH’s methodology has been repeatedly criticized. In one case, CTEH obtained soil samples from multiple locations after Katrina, at odds with EPA guidelines. In another, the company used low-volume monitors at a Tennessee coal ash spill that were alleged to have not been in EPA compliance. The Chinese drywall from a manufacturer called Knauf Plasterboard Tianjin, which CTEH determined to be safe, was later the subject of a 2011 settlement with homeowners worth between \$600 million and \$1 billion.

A 2019 story in Grist further detailed CTEH’s alleged mishandling of toxicology reports, including work done during a chemical explosion in Houston that one toxicologist described as “a sloppy job.”

CTEH has popped up numerous times after derailments. Norfolk Southern has hired it on at least two occasions, after a 2005 wreck and chlorine leak in Graniteville, South Carolina, and a crash in Jefferson County, Georgia, in 2019.

In 2012, a CSX train carrying flammable chemicals like butadiene derailed in Jefferson County, Kentucky, and CTEH was hired to monitor the crash site, declaring it safe to begin cleanup efforts. Two days after the incident, workers Leonard Carrillo and Gregory Powers used an acetylene torch to cut through a piece of the train; it caused an immediate flash fire, and Carrillo and Powers suffered severe burns. Eventually, CSX and CTEH settled a lawsuit with the two workers for \$18.5 million.

IN EAST PALESTINE, CTEH has been contracted by Norfolk Southern and was testing the air within hours of the derailment. On February 21, the rail company released a video styled like a news report of CTEH

toxicologists testing air samples in the village, using handheld devices and stationary equipment. Sarah Burnett of CTEH explains that “we have detected no vinyl chloride or other constituents related to this incident in the air, and that all of our air monitoring and sampling do not indicate any short or long-term risks.” CTEH is described as having “decades of experience” with environmental health issues.

According to a resident of East Palestine who was a guest on Glenn Beck's radio show, Norfolk Southern is going door-to-door in the village testing air quality. One representative of the company told her, “We follow around the railroad when they make mistakes.” (The woman mistakenly said that CTEH was getting residents to sign long-term liability waiver forms, but they were only for the specific air monitoring work and later were withdrawn by CTEH.)

Tragically, at the same time as CTEH was monitoring East Palestine, a plane carrying five CTEH workers to Ohio crashed last week, killing everyone on board. The incident spawned lurid and rather disconnected conspiracy theories on social media, but the workers were not headed to East Palestine; they were en route to yet another disaster, an explosion at a copper plant in Bedford, outside of Cleveland.

River Valley Organizing, a community group on the ground in East Palestine, has released a list of demands for the region, including continued environmental testing from the EPA, and an “independent scientist,” paid for by Norfolk Southern but chosen by residents, to “represent the community” as a technical adviser. River Valley also wants ongoing medical testing and health services, also paid for by Norfolk Southern.

Norfolk Southern has not yet responded to a request for comment.

In 2020, CTEH merged with Montrose Environmental, a full-service “environmental solutions” company that works on logistics and “regulatory compliance” of environmental issues. The deal, whose specific terms were not disclosed, was financed by Oaktree Capital Management, a global private equity firm. Montrose itself announced it would go public three months after the CTEH merger.

The CTEH acquisition was one of the biggest of a litany of transactions for Montrose, which appears to be attempting to obtain market dominance in environmental consulting. In 2022, it acquired Industrial Automation Group, Environmental Standards, TriAD Environmental Consultants, AirKinetics, and Huco Consulting, and in 2023, Frontier Analytical Laboratories and Environmental Alliance.

Montrose earned over \$544 million in revenue in 2022, though in its growth stage it has yet to turn a profit. The company, which has 2,900 employees and 5,600 clients, has acquired 65 companies in the past decade, and sees continued gobbling up of rivals as key to its growth and market leadership. Upon this week's release of Montrose's annual report for 2022, CEO and Director Vijay Manthripragada said, “Since the start of 2023, we have increased our cadence of M&A [merger and acquisition] activity ... with more expected this year.” The annual report discusses “thousands of potential acquisition targets.”

While Montrose says at multiple points in its financial disclosures that environmental consulting is a fragmented industry with no single brand leader, it explicitly sees itself as “uniquely positioned to become a leading platform in the industry,” and mergers are a key node in that strategy. Smaller firms, it says at one point, have “barriers to entry,” and those like Montrose that

work across jurisdictions have “competitive advantages.” As Montrose concludes in its financial disclosure, “The success of our business depends, in part, on our ability to execute on our acquisition strategy.”

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DAVID DAYEN

David Dayen is the Prospect's executive editor. His work has appeared in The Intercept, The New Republic, HuffPost, The Washington Post, the Los Angeles Times, and more. His most recent book is 'Monopolized: Life in the Age of Corporate Power.'

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Texas A&M, Carnegie Mellon Researchers Confirm EPA's Finding On Air Quality In East Palestine

Researchers testing air pollution from the Ohio train derailment identified future needs for continued sampling.

By Megan Myers, Texas A&M University School of Veterinary Medicine & Biomedical Sciences •
MARCH 6, 2023

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Independent data collection by the Texas A&M University Superfund Research Center and Carnegie Mellon University has corroborated the U.S. Environmental Protection Agency's (EPA) findings on air quality in East Palestine, Ohio.

Researchers from the two universities, both partners in the Texas A&M Superfund Research Center, used Carnegie Mellon's Center for Atmospheric Particle Studies Mobile Air Quality Lab to test for several pollutants on Feb. 20-21, less than three weeks after a Norfolk Southern freight train carrying hazardous materials derailed near the city.

Their data agreed with the EPA conclusions that concentrations of benzene, toluene, xylene, and vinyl chloride were below minimal risk levels for intermediate duration (15 days to one year) exposures, as set by the Agency for Toxic Substances and Disease Registry. Neither the EPA nor the independent researchers detected any hot spots for these chemicals, or areas where emissions from specific sources can expose local populations to elevated health risks.

They also confirmed levels of acrolein that varied greatly, both spatially and over time, and occasionally rose above safety thresholds for long-term health concerns. Acrolein is a colorless liquid chemical that becomes vapor when heated and can cause lung damage when inhaled over a long period of time.

According to the corroborating data from the [Texas A&M Superfund Research Center](https://superfund.tamu.edu/) (<https://superfund.tamu.edu/>) and Center for Atmospheric Particle Studies at Carnegie Mellon, acrolein levels in East Palestine ranged from five times lower to three times higher than levels in downtown Pittsburgh, which has levels consistent with most major U.S. cities.

3/8/23, 3:47 PM

Texas A&M, Carnegie Mellon Researchers Confirm EPA's Finding On Air Quality In East Palestine - Texas A&M Today

These levels are of note because East Palestine is in a rural area and would be expected to have lower concentrations.

"Going forward, there needs to be continued monitoring, not just for acrolein but also to figure out if there are other chemicals in the air that will be a concern," said Dr. Weihsueh Chiu, a professor at the Texas A&M School of Veterinary Medicine and Biomedical Sciences (VMBS) and deputy director of the Superfund Center. "But I wouldn't say that any of our data suggests an immediate safety hazard."

As of right now, many of the long-term implications of the disaster are still unknown.

"The federal and state authorities are recognizing that they need to broaden the scope of their air quality measurements and to bring additional sensitive equipment," said Dr. Ivan Rusyn, a University Professor of toxicology in the VMBS and director of the Superfund Center. "The EPA has given notice that this week, they're deploying a mobile sampling laboratory that can do testing throughout town and the area, as opposed to the fixed monitors that they have been deploying and the handheld monitors that are not very sensitive. So, the overall response is trending in the right way."

Providing an objective corroboration of the EPA's data is especially important in East Palestine, where many residents are struggling to trust the government's conclusions.

"Our colleagues at both the state and federal EPA have tremendous expertise in this area, but they could have done a little better of a job communicating exactly what 'safe' means in terms of duration of exposure and types of chemicals and mixture," Rusyn said. "One additional reason to continue testing is for communication purposes, to really reassure the residents and explain to them where the levels after the disaster are as compared to a baseline."

How involved the Superfund and Carnegie Mellon researchers will be in additional testing will depend on their ability to conduct testing without interfering with the EPA's work.

"If we can help with additional sampling, we will," Rusyn continued. "What we've done in the past, both at Carnegie Mellon and here at Texas A&M, is provide additional measurements over time, weeks and month after, to understand whether the levels after the disaster were abnormal or were just within the range. Unless you have data after the disaster, you really do not know whether you're measuring spikes or you're measuring background."

In addition to Rusyn and Chiu, the other researchers involved in the data collection and review were Dr. Natalie Johnson, an associate professor at the Texas A&M School of Public Health, and Dr. Albert Presto, a research professor at Carnegie Mellon University. Graduate students Ruby Hernandez and Mariana Saitas and undergraduate research assistant Lyssa Losa participated in the air sampling campaign in East Palestine on Feb. 20-21. Institutional support to the Superfund Center from Texas A&M Division of Research was used to support sampling and data analysis.

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EPA Orders Norfolk Southern to Conduct All Cleanup Actions Associated with the East Palestine Train Derailment

EPA order comes as state-led emergency response transitions to environmental cleanup phase; EPA will continue to work with local, state, and federal partners to ensure the health and safety of East Palestine community

February 21, 2023

Contact Information

EPA Press Office (press@epa.gov)

EPA Region 5 (R5_PIO@epa.gov)

WASHINGTON — Today, the U.S. Environmental Protection Agency (EPA) ordered Norfolk Southern to conduct all necessary actions associated with the cleanup from the East Palestine, Ohio, train derailment. As part of EPA's legally binding order, Norfolk Southern will be required to:

- Identify and clean up contaminated soil and water resources.
- Reimburse EPA for cleaning services to be offered to residents and businesses to provide an additional layer of reassurance, which will be conducted by EPA staff and contractors.
- Attend and participate in public meetings at EPA's request and post information online.
- Pay for EPA's costs for work performed under this order.

As part of the order, EPA will approve a workplan outlining all steps necessary to clean up the environmental damage caused by the derailment. If the company fails to complete any actions as ordered by EPA, the Agency will immediately step in, conduct the necessary work, and then seek to compel Norfolk Southern to pay triple the cost.

"The Norfolk Southern train derailment has upended the lives of East Palestine families, and EPA's order will ensure the company is held accountable for jeopardizing the health and safety of this community," **said EPA Administrator Michael S. Regan**. "Let me be clear: Norfolk Southern will pay for cleaning up the mess they created and for the trauma they've inflicted on this community. I'm deeply grateful to the emergency responders, including EPA personnel, who've been on the ground since day one and ensured there was no loss of life as a result of this disaster. As we transition from emergency response, EPA will continue to coordinate closely with our local, state, and federal partners through a whole-of-government approach to support the East Palestine community during the remediation phase. To the people of East Palestine, EPA stands with you now and for as long as it may take."

To address the concerns of residents regarding potential indoor contamination, EPA will offer cleaning services to area businesses and families. The Agency has extensive experience with similar cleaning programs in other Midwestern communities. Under the terms of the order, Norfolk Southern will reimburse EPA for the costs of these cleaning services. More details about how community members can request this service will be available this week.

EPA's order marks the transition of the multi-agency response from its "emergency phase" to a longer-term remediation phase. To help implement the order, EPA will establish a "unified command structure" to coordinate the clean-up related efforts of

FEMA, HHS, Ohio EPA, Ohio EMA, PA DEP, as well as Norfolk Southern. This approach is frequently used in situations where multiple agencies need to work together. In this case, the response includes federal, state and local agencies across multiple states.

EPA issued this unilateral administrative order pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, which gives EPA the authority to order those responsible for pollution to clean it up. The order takes effect two days after signature, though the cleanup work has already begun and will continue.

Background

As soon as EPA was notified of the Norfolk Southern train derailment on Friday, February 3, EPA personnel were on-site by 2 a.m. Saturday morning to assist with air monitoring. Since then, EPA has been boots-on-the-ground, leading robust air-quality testing – including with the state-of-the-art ASPECT plane and a mobile analytical laboratory – in and around East Palestine.

EPA has assisted with indoor air monitoring of more than 550 homes under a voluntary screening program offered to residents, and no detections of vinyl chloride or hydrogen chloride were identified above levels of concern. EPA is continuing to provide screening to all residents within the evacuation zone.

More information about EPA's ongoing response to the East Palestine train derailment is available on EPA's website: <https://response.epa.gov/EastPalestineTrainDerailment>
<<https://response.epa.gov/eastpalestinetrainderailment>>.

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EPA Requires Norfolk Southern to Sample for Dioxins in East Palestine

EPA will direct immediate cleanup as appropriate if contaminants from the derailment pose any unacceptable risk to human health

March 2, 2023

Contact Information

EPA Press Office (press@epa.gov)

EPA Region 5 (r5_pio@epa.gov)

WASHINGTON – In direct response to the concerns Administrator Michael Regan heard from residents in East Palestine earlier this week, the U.S. Environmental Protection Agency (EPA) will require Norfolk Southern to test directly for dioxins. If dioxins are found at a level that poses any unacceptable risk to human health and the environment, EPA will direct the immediate cleanup of the area as needed. In addition, EPA will require Norfolk Southern to conduct a background study to compare any dioxin levels around East Palestine to dioxin levels in other areas not impacted by the train derailment. Pursuant to EPA's order holding Norfolk Southern accountable

<<https://epa.gov/newsreleases/epa-orders-norfolk-southern-conduct-all-cleanup-actions-associated-east-palestine>>, EPA will oversee all potential cleanup efforts. EPA will also continue sampling for “indicator chemicals,” which based on test results to date, suggest a low probability for release of dioxin from this incident.

“Over the last few weeks, I’ve sat with East Palestine residents and community leaders in their homes, businesses, churches, and schools. I’ve heard their fears and concerns directly, and I’ve pledged that these experiences would inform EPA’s ongoing response efforts,” **said EPA Administrator Michael S. Regan.** “In response to concerns shared with me by residents, EPA will require Norfolk Southern to sample directly for dioxins under the agency’s oversight and direct the company to conduct immediate clean up if contaminants from the derailment are found at levels that jeopardize people’s health. This action builds on EPA’s bipartisan efforts alongside our local, state, and federal partners to earn the trust of this community and ensure all residents have the reassurances they need to feel safe at home once again.”

EPA’s approach to addressing community concerns for dioxins has focused on sampling and analysis for “indicator chemicals” such as chlorobenzenes and chlorophenols that would suggest the potential for the release of dioxins attributable to the derailment. EPA is currently analyzing for 19 chlorobenzene and chlorophenol compounds in the area of East Palestine. As of February 28, EPA has collected at least 115 samples in the potentially impacted area, which include samples of air, soils, surface water, and sediments. To date, EPA’s monitoring for indicator chemicals has suggested a low probability for release of dioxin from this incident. EPA’s air has detected only low levels of 1,4-dichlorobenzene typical of ambient background concentrations.

Holding Norfolk Southern Accountable

The input and perspective of the East Palestine community is essential to EPA’s ongoing response efforts to the train derailment and to holding Norfolk Southern accountable. To address concerns from residents about the potential release of dioxins resulting from the derailment, EPA will continue to sample for indicator chemicals and will also require Norfolk Southern to begin sampling directly for dioxins. If dioxins are found in the area including East Palestine, EPA will share the information with the public, determine whether the level of contaminants found poses any unacceptable risk to

human health and the environment, and direct the immediate cleanup of the area in coordination with Ohio EPA, Pennsylvania Department of Environmental Protection, and other partners.

Dioxins may be found in any urban or rural environment as a result of common processes such as burning wood or coal. Dioxins break down slowly in the environment, so the source of dioxins found in any area may be uncertain. To address related questions, EPA will require Norfolk Southern to conduct a background study to compare any dioxin levels around East Palestine to dioxin levels in other areas not impacted by the train derailment.

EPA is also currently reviewing a draft plan by Norfolk Southern to develop a dioxin “fingerprint” for soil sampling. EPA anticipates that developing a dioxin fingerprint for East Palestine will require use of certified laboratories that can perform high-resolution gas chromatography and mass spectrometry to identify various isomers of dioxins. If this dioxin fingerprint can be developed with reliable methodologies, it will help EPA determine whether any dioxin particularly from the train derailment and controlled burn impacted the local environment.

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Open NTSB Recommendations – Freight Rail Safety

Safety Recommendation R-22-008

TO THE CLASS I RAILROADS AND AMTRAK: Revise your criteria for train operations to provide dynamic weather alerts that take into account current, persistent, and past weather conditions to improve location-based adverse weather alerts.

Safety Recommendation R-22-009

TO THE CLASS I RAILROADS AND AMTRAK: Once the weather alert criteria are revised based on Safety Recommendation R-22-8, ensure that railroad operational and engineering personnel are aware of the revision and that they adopt any changes in practices or protocols it may require.

Safety Recommendation R-22-001

TO NORFOLK SOUTHERN: Review and revise the terminal instructions in the Harrisburg Division Timetable Number 1 that govern the close-clearance restriction locations within the Baltimore Consolidated Terminal, and ensure the instructions contain consistent language related to close-clearance locations.

Safety Recommendation R-22-002

TO NORFOLK SOUTHERN: Revise the Baltimore Consolidated Terminal training and testing program to emphasize the close-clearance restriction locations and location-specific hazards.

Safety Recommendation R-19-041

TO THE CLASS I RAILROADS: Review and issue guidance as necessary for the inspection of end-of-railcar air hose configurations to ensure the air hose configuration matches the intended design.

Safety Recommendation R-19-042

TO THE CLASS I RAILROADS: Review and revise your air brake and train handling instructions for grade operations and two-way end-of-train device instructions to include: monitoring locomotive air flow meters, checking the status of communication between the head-of-train and end-of train devices before cresting a grade, and the actions to take if the air pressure at the rear of the train does not respond to an air brake application.

Safety Recommendation R-16-045

TO BNSF RAILWAY, CANADIAN NATIONAL RAILWAY, CANADIAN PACIFIC RAILWAY, CSX TRANSPORTATION, KANSAS CITY SOUTHERN RAILWAY, NORFOLK SOUTHERN RAILWAY, INTERCITY RAILROADS, AND COMMUTER RAILROADS: Review and revise as necessary your medical rules, standards, or protocols to ensure you are informed of any diagnosed sleep disorders that employees in safety-sensitive positions must report and, when an employee makes such a report, perform periodic evaluations to ensure the condition is appropriately treated and the employee is fit for duty.

Safety Recommendation R-16-046

TO CLASS I RAILROADS: Revise your scheduling practices for train crews and implement science-based tools, such as validated biomathematical models, to reduce start time variability that results in irregular work-rest cycles and fatigue.

Open NTSB Recommendations – Freight Rail Safety

Safety Recommendation R-13-026

TO ALL CLASS I RAILROADS: Install in all controlling locomotive cabs and cab car operating compartments crash-and fire-protected inward-and outward-facing audio and image recorders. The devices should have a minimum 12-hour continuous recording capability.

Safety Recommendation R-13-016

TO CANADIAN PACIFIC RAILWAY LIMITED, KANSAS CITY SOUTHERN RAILWAY COMPANY, NORFOLK SOUTHERN RAILROAD, AND UNION PACIFIC RAILROAD: Discontinue the use of after-arrival track authorities for train movements in nonsignaled territory not equipped with a positive train control system.

Safety Recommendation R-21-001

TO THE FEDERAL RAILROAD ADMINISTRATION: Require all railroads to establish working limits that prevent trains or other on-track machinery from entering zones where employees, including those who work on or from maintenance-of-way equipment or on trains engaged in maintenance-of-way tasks, are working.

Safety Recommendation R-21-002

TO THE FEDERAL RAILROAD ADMINISTRATION: Require all railroads to revise training and increase oversight to ensure that operating crews properly use restricted speeds.

Safety Recommendation R-20-028

TO THE FEDERAL RAILROAD ADMINISTRATION: Revise Title 49 Code of Federal Regulations Part 232 to require more frequent communication checks between a head-of-train device and an end-of-train device.

Safety Recommendation R-20-029

TO THE FEDERAL RAILROAD ADMINISTRATION: Require that the emergency brake signal transmission is repeated until received by the end-of-train device.

Safety Recommendation R-20-018

TO THE FEDERAL RAILROAD ADMINISTRATION: Review the software changes being developed by the Interoperable Train Control Application Committee regarding positive train control restricted mode and amend Title 49 Code of Federal Regulations Part 236 to require railroads to revise their positive train control systems to implement engineering controls that will automatically limit the use of restricted mode on main tracks.

Safety Recommendation R-18-026

TO THE FEDERAL RAILROAD ADMINISTRATION: Provide additional training to all your track inspectors on regulatory track safety standards compliance and provide guidance of available enforcement options to obtain compliance with minimum track safety standards when defective conditions are not being properly remediated by railroads on all routes that carry high hazardous flammable materials.

Open NTSB Recommendations – Freight Rail Safety

Safety Recommendation R-18-016

TO THE FEDERAL RAILROAD ADMINISTRATION: Review, and modify if necessary, your current inspection guidance regarding watchman/lookout equipment to verify that it requires railroads to provide the necessary equipment for a watchman/lookout to notify a roadway work group of approaching trains and that this accurately reflects the definition contained in Title 49 Code of Federal Regulations 214.7.

Safety Recommendation R-18-017

TO THE FEDERAL RAILROAD ADMINISTRATION: Review railroads' on-track safety programs to determine if the necessary equipment is required and provided for a watchman/lookout to notify roadway work groups of approaching trains. If deficiencies are discovered, use enforcement options to encourage compliance.

Safety Recommendation R-18-018

TO THE FEDERAL RAILROAD ADMINISTRATION: Revise your guidance for inspectors regarding required watchman/lookout equipment and procedures, train all of your inspectors on the revised guidance, and audit subsequent inspections to verify adherence to the specifications outlined in Title 49 Code of Federal Regulations 214.

Safety Recommendation R-18-019

TO THE FEDERAL RAILROAD ADMINISTRATION: Modify the National Inspection Plan to require periodic unannounced inspections for roadway worker protection regulation compliance.

Safety Recommendation R-17-032

TO THE FEDERAL RAILROAD ADMINISTRATION: Research and evaluate wheel impact load thresholds to find remedial actions that address the mechanical condition of tank cars used in high-hazard flammable trains.

Safety Recommendation R-17-033

TO THE FEDERAL RAILROAD ADMINISTRATION: Mandate remedial actions that railroads should take to avoid or identify mechanical defects that are identified by wheel impact load detectors.

Safety Recommendation R-17-034

TO THE FEDERAL RAILROAD ADMINISTRATION AND THE ASSOCIATION OF AMERICAN RAILROADS: Collaborate in the evaluation of safe kip thresholds to determine the remedial actions for suspected defective wheels conditions in high-hazard flammable train service based upon equipment detector data, and revise the Federal Railroad Administration Safety Advisory 2015-01 and the Association of American Railroads interchange rules.

Safety Recommendation R-17-003

TO THE FEDERAL RAILROAD ADMINISTRATION: Evaluate the risks posed to train crews by hazardous materials transported by rail, determine the adequate separation distance between hazardous materials cars and locomotives and occupied equipment that ensures the protection of train crews during both normal operations and accident conditions, and collaborate with the

Open NTSB Recommendations – Freight Rail Safety

Pipeline and Hazardous Materials Safety Administration to revise 49 Code of Federal Regulations 174.85 to reflect those findings. (Supersedes R-08-012)

Safety Recommendation R-16-043

TO THE FEDERAL RAILROAD ADMINISTRATION: Require freight railroads to use validated biomathematical fatigue models, similar to the models used by passenger railroads, to develop work schedules that do not pose an excessive risk of fatigue.

Safety Recommendation R-16-044

TO THE FEDERAL RAILROAD ADMINISTRATION: Develop and enforce medical standards that railroad employees in safety-sensitive positions diagnosed with sleep disorders must meet to be considered fit for duty.

Safety Recommendation R-15-035

TO THE FEDERAL RAILROAD ADMINISTRATION: Enhance your medical standards by identifying a list of medical conditions that disqualify employees for safety-sensitive positions because of the conditions' potential for negatively affecting rail safety.

Safety Recommendation R-15-036

TO THE FEDERAL RAILROAD ADMINISTRATION: Enhance your medical standards by identifying a list of medications whose use disqualifies employees for safety-sensitive positions because of the medications' potential for negatively affecting rail safety.

Safety Recommendation R-15-037

TO THE FEDERAL RAILROAD ADMINISTRATION: Once disqualifying medical conditions and medications have been identified, develop specific criteria (such as standards for medical test results) that may allow employees who have been disqualified but have been determined by a subsequent, individualized assessment to pose no increased danger to rail safety to obtain a medical certification.

Safety Recommendation R-14-075

TO THE FEDERAL RAILROAD ADMINISTRATION: Revise Title 49 Code of Federal Regulations Part 213 to define specific allowable limits for combinations of track conditions, none of which individually amounts to a deviation from Federal Railroad Administration regulations that requires remedial action, but, which when combined, require remedial action.

Safety Recommendation R-14-015

TO THE FEDERAL RAILROAD ADMINISTRATION: Promulgate a regulation for permitting a train to pass a red signal aspect protecting a moveable bridge that is similar to the criteria for allowing a train to cross a broken rail as contained in Title 49 Code of Federal Regulations 213.7(d) to ensure that the bridge has been inspected by a qualified employee before a train is authorized to proceed across the bridge.

Open NTSB Recommendations – Freight Rail Safety

Safety Recommendation R-13-018

TO THE FEDERAL RAILROAD ADMINISTRATION: Determine what constitutes a reliable, valid, and comparable field test procedure for assessing the color discrimination capabilities of employees in safety-sensitive positions.

Safety Recommendation R-13-019

TO THE FEDERAL RAILROAD ADMINISTRATION: When you have made the determination in Safety Recommendation R-13-18, require railroads to use a reliable, valid, and comparable field test procedure for assessing the color discrimination capabilities of employees in safety-sensitive positions.

Safety Recommendation R-13-020

TO THE FEDERAL RAILROAD ADMINISTRATION: Require more frequent medical certification exams for employees in safety-sensitive positions who have chronic conditions with the potential to deteriorate sufficiently to impair safe job performance.

Safety Recommendation R-13-021

TO THE FEDERAL RAILROAD ADMINISTRATION: Develop medical certification regulations for employees in safety-sensitive positions that include, at a minimum, (1) a complete medical history that includes specific screening for sleep disorders, a review of current medications, and a thorough physical examination, (2) standardization of testing protocols across the industry, and (3) centralized oversight of certification decisions for employees who fail initial testing; and consider requiring that medical examinations be performed by those with specific training and certification in evaluating medication use and health issues related to occupational safety on railroads. [This recommendation supersedes Safety Recommendations R-02-24, R-02-25, and R-02-26.]

Safety Recommendation R-13-022

TO THE FEDERAL RAILROAD ADMINISTRATION: Require all information captured by any required recorder to also be recorded in another location remote from the lead locomotive(s), to minimize the likelihood of the information's being unrecoverable as a result of an accident.

Safety Recommendation R-13-005

TO THE FEDERAL RAILROAD ADMINISTRATION: Identify, and require railroads to use in locomotive cabs, technology-based solutions that detect the presence of signal-emitting portable electronic devices and that inform the railroad management about the detected devices in real time.

Safety Recommendation R-13-007

TO THE FEDERAL RAILROAD ADMINISTRATION: Require railroads to implement initial and recurrent crew resource management training for train crews.

Safety Recommendation R-12-016

TO THE FEDERAL RAILROAD ADMINISTRATION: Require railroads to medically screen employees in safety-sensitive positions for sleep apnea and other sleep disorders.

Open NTSB Recommendations – Freight Rail Safety

Safety Recommendation R-12-017

TO THE FEDERAL RAILROAD ADMINISTRATION: Establish an ongoing program to monitor, evaluate, report on, and continuously improve fatigue management systems implemented by operating railroads to identify, mitigate, and continuously reduce fatigue-related risks for personnel performing safety-critical tasks, with particular emphasis on biomathematical models of fatigue.

Safety Recommendation R-12-018

TO THE FEDERAL RAILROAD ADMINISTRATION: Conduct research on new and existing methods that can identify fatigue and mitigate performance decrements associated with fatigue in on-duty train crews.

Safety Recommendation R-12-019

TO THE FEDERAL RAILROAD ADMINISTRATION: Require the implementation of methods that can identify fatigue and mitigate performance decrements associated with fatigue in on-duty train crews that are identified or developed in response to Safety Recommendation R-12-18.

Safety Recommendation R-17-001

TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Evaluate the risks posed to train crews by hazardous materials transported by rail, determine the adequate separation distance between hazardous materials cars and locomotives and occupied equipment that ensures the protection of train crews during both normal operations and accident conditions, and collaborate with the Federal Railroad Administration to revise 49 Code of Federal Regulations 174.85 to reflect those findings. (Supersedes R-08-013)

Safety Recommendation R-17-002

TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Pending completion of the risk evaluation and action in accordance with its findings prescribed in Safety Recommendation R-17-01, withdraw regulatory interpretation 06-0278 that pertains to 49 Code of Federal Regulations 174.85 for positioning placarded rail cars in a train and require that all trains have a minimum of five nonplacarded cars between any locomotive or occupied equipment and the nearest placarded car transporting hazardous materials, regardless of train length and consist.



**River Valley Organizing's Testimony Submitted for the Record of the U.S. Senate
Environment and Public Works Committee Hearing:**

**"Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train
Derailment and Chemical Release in East Palestine, Ohio"**

March 9th, 2023

Contact Information: Daniel Winston, daniel@rivervalleyorganizing.org

River Valley Organizing appreciates the opportunity to submit this statement for the record of the hearing titled, "Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train Derailment and Chemical Release in East Palestine, Ohio."

[River Valley Organizing](#) is a multi-racial, multicultural, working class organization that builds community throughout the Ohio River Valley. River Valley Organizing has been working for years to fight environmental degradation in Columbiana County and the Ohio River Valley region. Since the train derailment, RVO has been on the ground in East Palestine listening to residents about what they need to recover. RVO is also coordinating independent environmental testing with researchers from University of Pittsburgh and others.

Our communities will not be a sacrifice zone for the almighty corporate profit. East Palestine is where the train derailed, but it isn't where this disaster ended.

Tens of thousands of people have or had symptoms including shortness of breath, rashes, nausea, intense headaches, dizziness, and more. Many remain ill as they live in their homes. Many outside the evacuation radius are still experiencing symptoms.

As our governor, federal officials, and local elected officials took sips of water for a publicity stunt, our residents were being diagnosed with bronchitis and rashes from chemical exposure.

While our children couldn't breathe and complained of headaches, we were told they were safe.

As a journalist was arrested for trying to report under their 1st amendment right, we were begging for answers.

It took a month of us telling people we were sick for the EPA and Norfolk Southern to offer temporary relocation assistance. It took community members speaking out and public pressure for EPA to test for toxic, cancer causing dioxins, even when independent experts immediately warned they could be present.

And that only begins to describe what has happened to us. Businesses are shutting down. Homes have no property value. Our animals are dead. Our precious waterways are polluted. People are sick and scared. Our farmers aren't sure if it is safe to grow crops. Parents are trying to decide between money for a safer environment and weekly groceries.

Following a large community meeting and consultation with environmental experts, River Valley Organizing released new community demands targeting Norfolk Southern and the federal government. RVO previously successfully pushed Ohio Gov. Mike DeWine to request FEMA aid for the community.

These demands are based on feedback from a [standing room only](#) community [meeting](#) last Thursday attended by more than 200 impacted residents from East Palestine and the surrounding area. RVO has also consulted environmental and public health experts who have experience with similar incidents.

East Palestine Community Demands:

1. **Relocation for anyone who wants it.** Folks don't feel safe and aren't getting their questions answered. Anyone who wants to be relocated to hotels or safe housing should have the opportunity to do so, paid for by Norfolk Southern.
2. **Independent environmental testing.** The EPA must immediately begin and continue to test soil, water, and air, including for dioxins throughout the region, and commit to regular public meetings to explain findings. Norfolk Southern must pay for an independent scientist, hired by residents, to represent the community and participate in all technical meetings regarding testing, cleanup, and safety plans. Two opeds on the dangers of dioxin and the need to test them are attached to this statement below.

3. **Ongoing medical testing and monitoring:** We still don't know what the short and long term health impacts of this disaster will be. Federal Health & Human Services must provide ongoing health monitoring to evaluate those in the impacted region, guarantee health coverage, and Norfolk Southern must cover the cost.

4. **Dispose of the toxic waste safely:** The EPA cannot take the solid waste from the derailment and dispose of it in the Heritage Thermal toxic incinerator, in nearby East Liverpool, that has already been polluting our communities for years. This will only further spread the contaminants. Norfolk Southern must stop destroying evidence – we need a safety plan before resuming cleanup from the derailment site.

5. **Norfolk Southern pays 100% of the costs.** Taxpayers shouldn't foot this bill. Norfolk Southern made this mess, they should clean it up. The company must commit to paying 100% of the costs for testing, relocation, cleanup, medical monitoring and costs, and an independent science advisor. Stop putting people above profit.

It is time to hold Norfolk Southern immediately responsible for the pain they caused. The pain they caused because losing a few dollars to repair a broken down train was more important than an entire region's safety and health.

"It is only through coming together and demanding action that we will hold Norfolk Southern accountable and get families and businesses in our community the help they are owed." **RVO Organizer and East Palestine resident Jami Cozza.**

What does the future hold for us? We know cancer, chronic illness, and crippling debt from the fallout may be unavoidable. Will we be forgotten about as our ongoing environmental poisoning becomes more and more normal?

"When the national press and celebrities lose interest and go home, our region will still be left dealing with this mess for years to come." said **RVO Co-Executive Director Daniel Winston.**

Norfolk Southern has spent years buying influence with millions in political contributions and lobbyists. They are used to administrations of both parties bowing to their influence. What they

are not used to is a community like East Palestine - a community unwilling to quietly let itself be destroyed by a billion dollar corporation.

But this is bigger than just East Palestine and nearby communities. We are not here solely to reiterate our community demands, but to also ensure that Norfolk Southern and others NEVER inflict the trauma they did on us to others.

Real change must happen today in this committee. Legislative change is not only a necessity, it is your moral obligation as people who chose to serve this nation.

The Appalachians that keep these industries running, are the same people these industries are killing. We will no longer be harmed for the world's gain.

Do your jobs. Stop taking money from the industries that are killing us. Hold them accountable. Be an example of the America we claim to be.

Appendix I

NY Times

OPINION

GUEST ESSAY

Why Is the E.P.A. So Timid in the East Palestine Train Disaster?

March 8, 2023, 5:00 a.m. ET

By Judith Enck

<https://www.nytimes.com/2023/03/08/opinion/east-palestine-ohio-epa-dioxin.html>

Ms. Enck is a former regional administrator of the Environmental Protection Agency.

When a Norfolk Southern train carrying nearly 116,000 gallons of vinyl chloride derailed in East Palestine, Ohio, last month, local officials made a pivotal decision: to drain the highly toxic chemical into a ditch and set it on fire in a "controlled burn" to avoid a catastrophic explosion.

Officials didn't mention that the plume could rain dioxins and other enduring poisons down on the community and others downwind. And two days after the burn, residents in the one-by-two-mile

evacuation zone were allowed back into their homes — before any testing for dioxins and other contaminants on the surfaces inside had been done.

Dioxins are some of the most potent carcinogens on earth — there's no "safe" dose for humans, and pregnant women and young children are especially vulnerable to their effects.

But even now, a month after the derailment, the people of East Palestine don't have solid information about the risks they and their families face — whether they have already been exposed, what they should be doing to avoid future exposure and whether they just need to move.

Why would the Environmental Protection Agency allow this horrific situation to continue? It should have ordered comprehensive testing the very day of the burn. It should have told residents, especially pregnant women and families with young children, not to return home until it was safe to do so. Instead, it timidly stood back, leaving local authorities, corporate interests and rumors to fill the void.

In lieu of a comprehensive plan, the E.P.A. appears to be playing a game of crisis whack-a-mole, waiting and then responding to the news cycle. This is no way to safeguard our communities.

In a situation like this, the E.P.A. should immediately conduct authoritative tests and come up with a plan to address any dangers, and communicate all of it loudly and clearly to the affected communities. Instead it waited a full month, and then asked Norfolk Southern to test for dioxins and come up with a plan.

This is a terrible approach. Not only are the interests of a company accused of polluting quite obviously distinct from those of the public, but giving an nongovernmental entity responsibility for undertaking these steps means more time will be lost in an additional layer of review and approval.

There have been other troublesome missteps and delays. Residents were most at risk during, and immediately following, the moment the large toxic cloud spread across the community. Yet the E.P.A. waited until just a few days ago to announce that residents living within one mile of the train derailment could get money to relocate temporarily. Weeks after the evacuation order was lifted, residents were offered commercial cleaning inside their homes, long after many cleaned on their own. That, too, should have happened on Day 1.

Many of these failures most likely happened because the E.P.A. deferred too much to the less experienced Ohio E.P.A. That agency answers to Gov. Mike DeWine, who since the beginning has not seemed to grasp the seriousness of the situation.

But by acting as a reluctant regulator, the E.P.A. has left the residents of East Palestine and the surrounding areas desperate for answers. In a recent community meeting, residents demanded more information. These are people who are concerned for their health, the safety of their own homes and the well-being of their children. They deserve better.

I proudly served as an E.P.A. regional administrator during the Obama administration. And I saw the consequences of the agency's culture of deferring to states, including states with lax environmental enforcement. It happened in Flint, Mich., where residents were left to continue drinking lead-contaminated water while the E.P.A. waited for the state to act. It was only when the public spoke out and the national press started paying attention that the E.P.A. finally stepped up.

You can see this excessive deference in nonemergency situations, too, in Louisiana, Mississippi and Texas. In these states, the E.P.A. has stood by for decades as serial polluters pumped contaminants into the air and the water in communities where petrochemicals are manufactured. According to E.P.A. records, people in Louisiana and Texas were breathing in air with more toxic chemicals than the residents of any other part of the country. Yet the Louisiana Department of Environmental Quality approved permits for a giant Formosa Plastics complex in St. James Parish, and the E.P.A. did nothing publicly to oppose them. (The permits were later thrown out by a judge, but that ruling has been appealed.) Time and time again, the state has failed its people and the E.P.A. hasn't done enough to step in.

The E.P.A. needs to take two actions now.

First, it needs to conduct comprehensive environmental testing for dioxins in and around East Palestine. It has been testing for what it calls indicator chemicals — used to assess potential exposure to toxic substances — and has stated that the results “suggest a low probability for release of dioxin from this incident.” Let's hope that is true — but why spend time on indicator chemicals when the E.P.A. knows how to test directly for dioxins?

Second, the E.P.A. needs to establish federally funded medical monitoring for everyone along the plume. Even those who appear healthy now should be offered baseline testing.

There is much to do. But the E.P.A. can't do it without more people and money. After years of funding cuts, the agency is down to 15,115 employees this year, from 18,110 in 1999. For effective enforcement of our environmental laws, Congress needs to approve more funding for this crucial agency.

Whether you live in a blue, red or purple state, the E.P.A. should work aggressively to protect your health and the health of your families during environmental emergencies. The people of East Palestine and their neighbors have been through a lot. The E.P.A. will need to work hard to regain their trust.

Judith Enck, a former E.P.A. regional administrator, is on the faculty at Bennington College and is the president of Beyond Plastics an organization that seeks to end plastic pollution.

Appendix II

Here's the real reason the EPA doesn't want to test for toxins in East Palestine

Stephen Lester

The agency is familiar with dioxins, having researched its adverse effects, and if they test the soil in East Palestine for it, they will find it

Thu 2 Mar 2023 09.00 EST

The decision to release and burn five tanker cars of vinyl chloride and other chemicals at the site of a 38-car derailment in East Palestine, Ohio, just over three weeks ago unleashed a gigantic cloud full of particulates that enveloped surrounding neighborhoods and farms in Ohio and Pennsylvania.

It is well documented that burning chlorinated chemicals like vinyl chloride will generate dioxins. "Dioxin" is the name given to a group of persistent, very toxic chemicals that share similar chemical structures. The most toxic form of dioxin is 2,3,7,8-tetrachlorodibenzo-p-dioxin or TCDD. TCDD is more commonly recognized as the toxic contaminant found in Agent Orange and at Love Canal, New York and Times Beach, Missouri, both sites of two of the most tragic environmental catastrophes in US history.

Dioxin is not deliberately manufactured. It is the unintended byproduct of industrial processes that use or burn chlorine. It is also produced when chemicals such as vinyl chloride are burned such as occurred in East Palestine.

The organization I work for, the Center for Health, Environment & Justice, has worked with communities affected by dioxins for over 40 years. We have seen the impact of exposure to dioxins in communities from Love Canal and Times Beach to Pensacola, Florida. And now, we are asking, why isn't EPA testing for dioxins in East Palestine, Ohio? Are dioxins present in the soil downwind from the site of the accident?

At a townhall meeting in East Palestine last week, people talked about what it was like when the black cloud reached their property. One person who lived 15 miles away described burned ash material from the fire that settled on her property. Another who lived 3 miles away described how the black cloud completely smothered his property. Repeatedly people asked: was it safe for my kids to play in the yard? Is it safe to grow a garden? What is going to happen to my farm animals?

These are important questions that deserve to be answered. Today there are no clear answers. Why? Because no one has done any testing for dioxins anywhere in East Palestine. No one. And, it seems, that the EPA is uninterested in testing for dioxins, behaving as though dioxin is no big deal.

This makes no sense. Testing for dioxin, a highly toxic substance, should have been one of the first things to look for, especially in the air once the decision was made to burn the vinyl chloride. There is no question that dioxins were formed in the vinyl chloride fire. They would have formed on the particulate matter – the black soot – in the cloud that was so clearly visible at the time of the burn. Now, the question is how much is in the soil where people live in and around East Palestine. Without testing, no one will know and the people who live there will remain in the dark, uncertain about their fate.

This is important because of the adverse health effects associated with exposure to dioxins. Exposure to dioxins can cause cancer, reproductive damage, developmental problems, type 2 diabetes, ischemic heart disease, infertility in adults, impairment of the immune system and skin lesions.

The EPA is very familiar with dioxins. For more than 25 years, the agency evaluated and assessed the risks posed by exposure to dioxins. They published multiple draft reports on the health effects caused by exposure to dioxins. They published an inventory of dioxin sources and devoted an enormous amount of time to studying dioxins. The agency knows this chemical very well.

So why is EPA unwilling to test for dioxins in the soil? My guess is because they know they will find it. And if they find it, they'll have to address the many questions people are asking. It will not be easy to interpret the results of the testing for dioxins in soil, but to avoid testing is irresponsible. The EPA's mission is to protect human health and the environment. Clearly the situation in East Palestine is the place where EPA should follow its mission and do right by the people who live in this town. EPA must test the soil in East Palestine for dioxins.

The people who live there need to know so they can make informed decisions about their future.

Stephen Lester is a toxicologist and the science director of the Center for Health, Environment & Justice, a project of the People's Action Institute.

Senator CARPER. Next, Senator Whitehouse, I think you are recognized for questions.

WH: Great, thank you. Mr. Shaw, the news is reporting that there has just been a significant derailment in Alabama of one of your trains. I certainly hope that all of your team and anybody in the vicinity is safe and well. You may need to look into that. I wanted to mention that.

I am interested, in my questions, in the extent to which politics has played a role in this situation. In 2015, the Federal Government issued a new regulation requiring trains like yours that carry certain dangerous substances to be equipped with electronic brakes. Along with other industry stakeholders, Norfolk Southern stated that the regulation was “not in the public interest.” The industry successfully got the regulation watered down.

Just 3 years later, the Trump Administration fully repealed the regulation. I will ask you a question for the record for your attorneys and staff to reply to about, for all communications between your company and your trade association with the Trump Administration relative to that repeal. You do not have to respond now. That is a coming attraction through our QFR process.

I also note that since 2002, the rail industry has spent more than \$650 million on Federal lobbying, with another \$60 million spent on State lobbying. The five largest spenders were the Association of American Railroads, your major trade group, BNSF Railway, CSX Corporation, Union Pacific Corporation, and you can answer for me who was the fifth big spender. I will give you a hint: it is Norfolk Southern.

Do you know how much it was that Norfolk Southern spent on lobbying during that period?

Mr. SHAW. No, sir, I don’t.

Senator WHITEHOUSE. For the record, \$69 million. Norfolk Southern lobbies through the National Association of Manufacturers as well. Do you by any chance know how much Norfolk Southern gave to National Association of Manufacturers in 2016 and 2017 when it was opposing the braking regulations I mentioned?

Mr. SHAW. Senator, I will note that the NTSB Chair Homendy specifically stated that the braking regulation that you referenced would not have had an impact on this derailment.

Senator WHITEHOUSE. Okay. Will you answer my question? Do you know how much you have spent against that regulation?

Mr. SHAW. No, sir, I don’t. I also know that the Government’s own GAO and the National Academies of Science indicated in 2016 that the Department of Transportation’s, the FRA’s review of ECP brakes was unjustified.

Senator WHITEHOUSE. I will ask you a question for the record that the information for 2016 and 2017 that you have reported for later years in your climate lobbying report be provided to the committee, an equivalent to what you already provide, but looking back to those years when this was at issue.

We have discovered that Norfolk Southern, in a statement that appears now to have been deleted from your website, had previously touted the ECP braking systems as having, and I quote you here, “the potential to reduce train stopping distances by as much as 60 percent over convention air brake systems.” We have found

as early as 2007 a Norfolk Southern lead engineer promoting the “big advantage for emergency braking” that ECP brakes offered.” So I want to make those statements a part of the record.

[The referenced information was not submitted at the time of print.]

Senator Whitehouse. Is it true, the New York Times reporting that Norfolk Southern has paid shareholders nearly \$18 billion through stock buybacks and dividends in 2022?

Mr. SHAW. The New York Times is reporting what, sir?

Senator WHITEHOUSE. That Norfolk Southern paid its shareholders nearly \$18 billion through stock buybacks and dividends in 2022.

Mr. SHAW. Sir, I have a different perspective on that.

Senator WHITEHOUSE. Is the number right?

Mr. SHAW. No, sir.

Senator Whitehouse. Putting aside your perspective?

Mr. SHAW. No, sir.

Senator Whitehouse. Okay. Then let me add to my QFR list your view of what the accurate number is, as opposed to the New York Times number.

My time is pretty well up, Mr. Chairman. I hope we can get prompt and complete answers to those QFRs. Thanks very much.

Senator CARPER. We look forward to your responses on QFRs, questions for the record, and we will talk more about that before we conclude. Thank you.

Next is Senator Merkley, then Senator Markey, not to be confused with one another.

Senator MERKLEY. Thank you very much, Mr. Chairman. Thank you all for bringing your testimony to bear. I do hope that the derailment that occurred just hours ago, Mr. Shaw, is one that does not endanger another community.

Back in 2016, Senator Wyden and I were very involved in pushing for improvements in safety after the derailment endangered the town of Mosier in Oregon. We found out how much the industry resists improvements in safety.

That following year, Norfolk Southern was invited to participate in a conversation with the Administration. They submitted a 23-page submission of rules and Federal guidance of things that they wanted, safety and regulations to be removed.

You have noted you are turning over a new leaf in this regard. So can we count on you and your team of lobbyists to push for safety improvements rather than lobbying against those improvements?

Mr. SHAW. Yes, Senator, I share your concern and your focus.

Senator MERKLEY. I do not want you to share my concern, I want to know, will your team lobby for safety improvements rather than against them?

Mr. SHAW. Senator, we will continue to follow science, we will continue to follow data. There are actually a number of areas in which we have invested in safety systems well above government regulation.

Senator MERKLEY. I will ask you to submit that for the record. I really thought when you said turn over a new leaf, I thought you were saying you were now going to support safety regulations. I am

sorry you can not tell this crowd here today that would like to hear that that is the case.

Three years ago, Norfolk Southern cut five positions in East Palestine that oversaw maintenance of equipment detectors that are used to determine or monitor boxes, sometimes they are called hotboxes, that measure things that are going on wrong on the track, including bearing temperature. There are initial reports that defective bearings or overheating bearings may well have been the cause of this particular accident.

Will you pledge today to quit eliminating positions and sensors that oversee track conditions like removing the folks who monitor the hotboxes, and instead add and support those monitors, so that when there is something like an overheating bearing, it gets detected and the train gets stopped rather than crashing or derailing?

Mr. SHAW. Senator, the NTSB report indicated that all of the hotbox detectors were working as designed. Earlier this week, we announced that we are adding approximately 200 hotbox detectors to our network. We already have amongst the lowest spacing between hotbox detectors in the industry, and we already have amongst the lowest thresholds.

Senator MERKELEY. I am delighted to hear you are adding those back. Thank you. It is also important to recognize those boxes actually have to be monitored, and it is the five positions for monitoring them that were eliminated.

I hope in response to the committee you will also be able to note how those are being monitored and how that monitoring can be improved.

My last question is that in 2021, your company did \$3.1 billion of stock buybacks, and in 2022, \$3.4 billion of stock buybacks. As of December, they had another \$7.5 billion available to do additional stock buybacks under the \$10 billion stock buyback plan.

That is quite impressive numbers for any American company. It indicates massive profits. Will you pledge today that you will do no more stock buybacks until a raft of safety measures have been completed to reduce the risks of derailments and crashes in the future?

Mr. SHAW. Senator, I will commit to continuing to invest in safety. We invest over a billion dollars a year.

Senator MERKLEY. You noted that you have a list of safety things you would like to implement. Will you commit, no more stock buybacks until those safety improvements are completed?

Mr. SHAW. Senator, I will commit to continuing to invest in safety. You have seen over time the number of derailments, hazardous material releases, and personal injuries has declined. There is always more that we will do, and I am committed to having the best safety culture in the industry.

Senator MERKLEY. You are coming here with three derailments within 3 months. The average for the industry is one per month for the entire industry. So congratulations on maybe some good luck over a few years. At this moment, your team is the team that has the most derailments in the last 3 months.

I want to note that every engineer understands that if you have brakes on every car, rather than just brakes on the front car, that you prevent the accordion style crashes that you have been having.

It is why any truck carrying a trailer has brakes on the trailer instead so the trailer doesn't flip over the top of it.

The industry has absolutely resisted these, trying to deploy their lobbyists to counter every single report about having those multiple brake systems. I understand it is complicated, because as you noted, you do not own the cars. That makes having these coordinated brake systems—but listen, if we can put people on the moon, we can put brakes on every train car. This is really the single most significant safety factor that can be pursued, and I really hope that you and your company and your industry will take and start taking seriously safety, which we have not seen to this point.

Mr. SHAW. Senator, I take safety very seriously. There are brakes on every car. I can assure you of that.

Senator MERKLEY. I hope you support the Coordinated Pneumatic Electronically Controlled system that you have been fighting against for years.

Senator CARPER. Senator Markey.

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

The East Palestine train derailment was not preordained. It was preventable. It was a disaster waiting to happen. Corporate greed, outdated railway safety regulations, lax hazardous material standards, were all the fuel on a toxic fire that was ready to combust. This was something that was preordained and known about because of all of the rail accidents that happen every year in our Country.

Unfortunately, innocent, hard-working working families in Ohio and Pennsylvania were the ones that got harmed by this. Those families were upended, their lives have been changed. Doctor bills, veterinarian bills, saw the values of their homes plummet overnight and stayed up late worrying about what this means for their health and the health of their young children in the future. These are real harms.

So am I right, Mr. Shaw, that last year, the stock buybacks by Norfolk Southern were \$3.4 billion? Is that correct?

Mr. SHAW. Yes, sir, that's directionally correct.

Senator MARKEY. Am I correct, Mr. Shaw, that last year Norfolk Southern made \$3.3 billion in profits?

Mr. SHAW. Yes, sir. Last year we invested over a billion dollars in safety, and last year, our accident rate, our number of accidents was the lowest it had been in the last 10 years. Our safety stats, Senator, continue to improve. I am committed to making Norfolk Southern's safety culture the best in the industry.

Senator MARKEY. Well, you are not having a good month. You are not having a good month. It seems like every week there is another accident that Norfolk Southern is a part of in our Country. So you may think you have put in enough. The facts are saying just the opposite in terms of what is happening.

What I am hearing from you is just this great confidence that you have in your system. I will tell you this, Mr. Shaw. Overconfidence breeds complacency, and complacency breed disaster. That disaster has hit East Palestine, and it is hitting community after community across this Country. Not just Norfolk Southern, but the rail industry in general that has reduced its work force by one-third over the last 10 years. In that reduction in work force, there

is a reduction in the measure of safety that has to be built in in order to guarantee that people avoid these kinds of catastrophes.

Let me ask you, Mr. Shaw, about a decision that your company has made. You have chosen an arbitrary one-mile radius from the disaster site for people to qualify for assistance, meaning some families who breathe the same air, drink the same water, are not getting the same help. Mr. Shaw, will you commit to providing financial compensation to all affected people, including those who live outside your arbitrarily chosen one-mile radius around the derailment site?

Mr. SHAW. Senator, we have made our Family Assistance Center and payments available to folks within the zip code, within Darlington Township. We have committed—

Senator MARKEY. Will you commit to helping those people outside of the one-mile radius? That is my question, yes or no.

Mr. SHAW. Senator, we already are.

Senator MARKEY. You already are?

Mr. SHAW. Yes, sir.

Senator MARKEY. All right. Well, that is not clear. Will you commit to compensating affected homeowners for their diminished property values?

Mr. SHAW. Senator, I am committing to do what is right.

Senator MARKEY. Well, what is right is a family that had a home worth \$100,000 that is now worth \$50,000 will probably never be able to sell that home for \$100,000 again. Will you compensate that family for that loss?

Mr. SHAW. Senator, I am committed to do what is right.

Senator MARKEY. That is the right thing to do. These are the people who are innocent victims, Mr. Shaw. These people were just there at home and all of a sudden their small businesses, their homes are forever going to have been diminished in value. Norfolk Southern owes these people. It is an accident that is basically under the responsibility of Norfolk Southern, not these families.

When you say "do the right thing," will you, again, compensate these families for their diminished lost property value, for homes and small businesses?

Mr. SHAW. Senator, we have already committed \$21 million, and that is a down payment.

Senator MARKEY. That is a down payment. Will you commit to ensuring that these families, these innocent families, do not lose their life savings and their homes and small businesses? The right thing to do is say, yes, we will.

Mr. SHAW. Senator, I am committed to doing what is right for the community. We are going to be there as long as it takes.

Senator MARKEY. What is right for the community will then be balanced, which is what we can see from your stock buybacks, by what is right for Norfolk Southern. That is going to be to sue, to fight, to resist full compensation for these families. That is the pattern we have seen over the last 10 years and your one-third reduction in work force with its natural concomitant reduction in safety.

We are not hearing the right things today. These families want to know long-term, are they just going to be left behind. Once the cameras move on, once the national attention dies down, where will these families be? I think they are going to be in the crosshairs of

the accountants of Norfolk Southern saying, we are not going to pay full compensation. That is why we are going to stay on this case until everyone in East Palestine is given the justice which they deserve.

Senator CAPITO.

[Presiding.] Senator Padilla is up next.

By way of explanation, we are in the middle of two votes. That is why we are sort of ping ponging a little bit. Sorry for the disruptions.

Senator PADILLA. Thank you, Madam Chair.

I understand while I stepped away for the votes you just referenced, there have been additional questions about the stock buybacks, which I may have some followup on, as well as followup to the precision scheduled railroading that I know Senator Sanders and Senator Graham, among others, have raised.

Let me actually ask a question of Ms. Shore. In the spirit of holding polluters accountable, we know what brings us here today are the incidents, plural now, in East Palestine.

We can all agree that we need to hold polluters accountable. I have strong feelings about this personally, having dealt with the Federal Government failing to hold companies accountable for environmental crimes and leaving communities holding the bag.

Aside from the loosening of regulations, which we need to discuss and debate, part of the conversation for the rail incident in East Palestine, I want to bring attention to a case in my hometown of Los Angeles.

Under the Trump Administration, the EPA, your predecessors, the agency you are part of leading, along with the Department of Justice under the Trump Administration, supported a bankruptcy plan to let the corporate polluter known as XCIDE evade criminal liability and responsibility to clean up decades of toxic dumping and, as a result, left California taxpayers on the hook for the largest environmental cleanup in our State's history.

My question, Ms. Shore, is how will the EPA ensure that what happened during the Trump Administration, what they inflicted on Los Angeles communities surrounding the XCIDE plant, is not repeated in East Palestine?

Ms. SHORE. Thank you, Senator Padilla.

On February 21st, EPA issued a Unilateral Administrative Order, it is one of the most powerful enforcement tools the agency has under the CERCLA, the Comprehensive Environmental Recovery, Compensation, and Liability Act, that will hold Norfolk Southern accountable to pay for all the costs of the cleanup and restoration in East Palestine.

If the company doesn't comply with EPA's order, then EPA can step in, continue the work so there is no disruption in the essential cleanup, and assess three times the cost as penalties. It is a tool that EPA has effectively used in the past and we will be vigorous about holding the company accountable.

Senator PADILLA. Thank you. Again, we saw what I would consider a worst case study, not a best-case study, when these settlements completely leave polluters off the hook for the damage they have taken. That was a prior Administration policy that changed under the current Administration, working to embed the environ-

mental justice lent as well, not just at EPA, but within the Department of Justice and hope to make it permanent.

I want to come back to Mr. Shaw for a few questions as it pertains to your work force, inspections and maintenance. You recently announced that Norfolk Southern would be deploying more wayside detection and hotbox detector technology as part of the safety plan. I apologize if this is a little bit redundant with the prior questions that have come up during the hearing, but I think I have some specifics I want to get to.

From what I understand, the company has also reduced its work force by nearly 40 percent since 2015. According to your own data reported to the Surface Transportation Board, the number of employees assigned to maintenance of equipment and stores has decreased by 60 percent over the past decade. Your data.

Given what has happened, is Norfolk Southern now going to hire the additional signal workers necessary to maintain and inspect the system you are relying on to improve safety?

Mr. SHAW. Yes, Senator, thank you for that question.

The NTSB report was very clear that our hotbox detectors were working as designed. We have taken it upon ourselves to install more hotbox detectors as needed.

Senator, I became CEO of Norfolk Southern 10 months ago. Senator, ever since then, we have been on a hiring spree. We are aggressively hiring employees. Right now, our pipeline of conductor trainees is amongst the highest in our history. I am not going to stop.

Senator PADILLA. Be specific. You say you are on a hiring spree. I want to be specific to the signal workers necessary to maintain and inspect the systems.

Mr. SHAW. Senator, if we need to hire more signal workers to maintain and inspect the signals, we will absolutely do that.

Senator PADILLA. Let me ask you this question. I do not know if you have worked the line or at least walked the line, but how many sensors or length of track are assigned to each worker?

Mr. SHAW. Senator, I do not have that specific information.

Senator PADILLA. Do you know if workers are specifically dedicated to the inspection and maintenance of these technologies, or if it is just one in a long list of responsibilities they may have in the course of a day?

Mr. SHAW. Senator, I do not know the specifics of that. I am happy to get that information to you.

Senator PADILLA. Let me tell you why I asked. According to the AFL-CIO's Transportation Trades Department, the amount of time car men have to inspect each car in a train has been reduced by two-thirds, from 3 minutes to now just 60 seconds per car, 60 seconds.

Do you know how long it takes to walk the perimeter of a single car? Do you think 60 seconds is enough to not just walk the perimeter of that train car but does that leave enough time for an actual, thorough inspection? I can not imagine this gives us the confidence that car men have the time to conduct that thorough inspection to identify or find any potential defects before the cars are sent back into service.

I know the initial reviews and studies have said the sensors weren't working as you mentioned, but the investigation is not complete. NTSB is still doing some followup work.

Sorry to drill down on a specific, but these specifics matter. It is not just the technologies, it is the work force necessary to install, to maintain and to ensure they are properly functioning. To me it just falls into the greater pattern we have seen over the past decade, work force overall reducing, corporate compensation and stock buybacks on the upswing when the work force that keeps the trains running and running safely is what is being compromised.

I know my time is up. Thank you, Madam Chair.

Senator CAPITO. Senator Stabenow.

Senator STABENOW. Thank you very much, Madam Chair.

Thank you to everyone for being here. This is obviously incredibly serious.

Mr. Shaw, Norfolk Southern's lack of transparent communication with impacted States, I am specifically thinking of Michigan now, during the cleanup process concerns me. Do you think it was acceptable that the company started moving toxic waste from East Palestine to Michigan without notifying Michigan officials? Michigan officials were not notified.

Mr. SHAW. Senator, working with the EPA, we were taking product to facilities that were specifically designed to handle this type of material.

Senator STABENOW. Michigan officials, the Governor, myself, Senator Peters, and the Michigan EPA were not notified before that happened. Let me just say that is why I am really glad the EPA is now overseeing this process going forward because that is not acceptable to us in Michigan.

Administrator Shore, moving forward, can I count on you and the EPA to work with us during the cleanup process, so we can make sure Michigan families are not put in danger?

Ms. SHORE. Senator Stabenow, you certainly can. The Administrative Order that we issued that went into effect fully on February 27th requires Norfolk Southern to notify our co-regulators, in your case Michigan Eagle, of shipments to the State.

As they continue to ship waste, EPA will take the additional step of keeping you and congressional staff in the State informed.

Senator STABENOW. Thank you so much, because that did not happen at the beginning. I appreciate now with EPA oversight that this will be happening, because it was very concerning to people in Michigan as well as elected officials.

I have a quote from Norfolk Southern: "We are going to learn from this terrible accident and work with regulators and elected officials to improve railroad safety."

Mr. Shaw, we certainly need to do that. We certainly need to strengthen safety standards, especially now that we have an Administration that supports strong standards instead of working to gut them like the last Administration did. We are now in a good spot to be able to move forward. We have bipartisan legislation to do that.

Here is my question. When you tell us the company is ready to learn from this, I would feel better if this wasn't the 20th time since 2015 the company has had a derailment resulting in a chem-

ical release. It is my understanding that the 21st incident almost happened in Van Buren Township, in Michigan, just 2 weeks after East Palestine.

My question is, great, that you say you are going to learn from number 20. What did you learn from number 19? What did you learn from number 1, number 5, number 10, or number 15? What safety measures have you implemented since this was the 20th time since 2015 that there had been a derailment resulting in a chemical release?

Mr. SHAW. Senator, I think that is the right thing to focus on. I am focused on it too. We invest over a billion dollars a year in safety. You have seen over time the number of derailments and hazardous material releases and personal injuries decline. We will continue to get better. I am committed to creating the best safety culture in the industry.

Just this week, we announced several new initiatives to enhance safety which included more hotbox detectors across our network, partnering with other railroads to share best practices on hotbox detector technology.

We are also putting up a machine visioning portal that can catch things that the human eye can't, developed in partnership with Georgia Tech. There are a number of different areas in which we are investing in safety.

I am very confident in the NTSB process, which is focused right now on a wheel bearing that failed and noted that the Norfolk Southern crew, the hotbox detectors, and the track were all operating as appropriate. I am not waiting for the full response. You are seeing action right now.

Senator STABENOW. I appreciate that. I think it is probably hard for families and businesses in East Palestine to hear this, though, when if that had been done in response to number 18 in the derailments, or number 15, or number 4, or any of those, we wouldn't have had number 20, which is what is happening to the community right now. My heart goes out to them and what they are having to deal with.

Frankly, having different but similar situations with toxic substances in Michigan and so on, this is going to take a long time for them to be able to recover.

This is number 20. I do not want number 21 in Michigan or any place else, for that matter. We talked a lot about the investments you are looking at making in the community which you need to do, legally, morally, ethically, in every which way.

I also hope you are taking another look at stock buybacks of the future. I know you have done \$6.5 billion already in the last 2 years and there was \$7.5 billion supposedly coming up. It would be a better use of that money if, in fact, you were investing in aggressive, responsible safety measures and making this community and any other community whole.

Thank you.

Senator CARPER.

[Presiding.] Thank you, Senator Stabenow.

I have a couple questions. Then Senator Capito is going to ask some questions. Then we will probably go to a closing statement.

Last August, the EPA proposed, this will be a question for Administrator Shore and for Mr. Shaw, for both of you, last August EPA proposed to amend its regulations for the Risk Management Program, as you probably know, which is an important program to help businesses avoid and address hazardous chemical accidents.

EPA's proposed changes would improve the Accident Prevention Program, enhance emergency preparedness and increase public availability of chemical hazard information. The goals of these changes are to improve public awareness, to improve preparedness, and to improve safety.

However, the Association of American Railroads, I am told, of which Norfolk Southern is a member, submitted comments to EPA expressing concern about the proposed changes. Those comments assert that the safety requirements that EPA proposed would "have limited use."

Let me ask Administrator Shore, can you explain how the Risk Management Program and EPA's recent proposed changes will help protect the health and safety of first responders and the local community? Then I will turn to Mr. Shaw. Administrator Shore, can you explain how the Risk Management Program and EPA's recent proposed changes will help protect the health and safety of first responders and the local community?

Ms. SHORE. Thank you, Chairman Carper.

Certainly accident prevention is a top priority at EPA. The Risk Management Program rule has been successful in reducing the frequency of accidental releases at regulated facilities. As I understand it, it doesn't pertain to rail transport. So there is work we can do there to try to protect first responders who are responding to derailments and releases resulting from rail accidents.

Senator CARPER. Mr. Shaw, does Norfolk Southern oppose EPA's proposed changes to the Risk Management Program to enhance our preparedness for chemical accidents?

Mr. SHAW. Senator, I apologize. I am not familiar with that program. I am happy to review the legislation or the program and discuss it with you further.

I have a sincere appreciation for the first responders from Ohio and Pennsylvania, two of whom are on this panel, and West Virginia, who ran to the scene. As a result, we just announced yesterday a regional first responder training center that will support the first responders of Ohio, Pennsylvania, and West Virginia.

Every year we train approximately 5,000 first responders, so we are committed.

Senator CARPER. Is that in the States in which you operate?

Mr. SHAW. Yes, sir.

Senator CARPER. OK. Last question, this is really a question for all of you. Mr. Brewer, I will start with you but the question is for all witnesses.

My colleagues, including certainly the Ranking Member, always that in adversity lies opportunity. That is Einstein, a pretty smart guy. Most people remember Einstein for saying the definition of insanity is to do the same thing over and over again and expect a different result. That might be pertinent here today as well.

I believe that in adversity lies opportunity. That is the way I approach life and the way I think a lot of us approach life.

An environmental tragedy creates, not just tragedy and heart-break, real heartache for a lot of people, but it also creates some opportunity for us to examine not only what went wrong on the heels of this derailment but also to look at some of the moments when things went right.

I am going to ask each of you, Mr. Brewer, I want to start with you, to just very briefly speak to something you believe has gone well while working together, across many entities, to navigate in response to this environmental disaster.

Can you give us an example or two of what you thought went particularly well?

Mr. BREWER. Sure. I think relationships we had with everyone up here, and the other responders, was positive. Initially, we had good relationships and good communications, as I said, with the boots on the ground. It may not be that way whenever the boss has gone on scene and I said that. As Mr. Shaw said, training, collaborative training from the railroads, I think something positive will come out of this.

Senator CARPER. Good.

Mr. Harrison, the same question. Share with us something you think has gone well and needs to be lifted up.

Mr. HARRISON. For ORSANCO, the success of our partnership investment in planning, building the Organic Detection System, training our staff, this was not a unique response. We get several hundred reports of potential spills a year from the National Response Center.

So we have been doing this for decades. Having the ability to put that in place I think has been very positive and also just to demonstrate how our team, our system, and our partnership works.

Senator CARPER. Thank you. Ms. Vogel, same question, please.

Ms. VOGEL. Chairman, the Mayor of East Palestine and the Fire Chief have really done just an exceptional job representing their community, protecting their community, and connecting their community with people who can provide scientific answers.

They have done such an incredible job refuting misinformation that is out there and getting people connected with the scientists either at Ohio EPA or U.S. EPA. I do think that is an example of something that has gone very well.

Senator CARPER. All right, good. Thank you.

Ms. Shore.

Ms. SHORE. Chairman Carper, I think what has been remarkable, though it should be standard, about the response to this disaster in East Palestine is the way local, State, and Federal agencies have worked collaboratively together, that it has not been about politics but about people.

You have seen Democrats standing with Republicans. President Biden was on the phone to Governor DeWine saying, whatever Federal resources are needed, they will be there for you. He did the same with Governor Shapiro of Pennsylvania.

You saw Administrator Regan standing to announce the Order with Governor DeWine and Governor Shapiro, with Congressman Bill Johnson and Congressman Deluzio, and so many others.

I think the collaboration focused on getting this cleaned up has been quite remarkable.

Senator CARPER. Thank you for that.

Mr. Shaw, same question, please.

Mr. SHAW. Thank you for that question, Senator.

I have been really clear that I am focused on the environmental cleanup and helping East Palestine thrive.

The things that have gone really well have been the coordination and the collaboration that we received from the folks at this table. I have made a personal commitment to Secretary Buttigieg, Governor DeWine, Mayor Conaway, Fire Chief Drabick, Governor Shapiro, and Administrator Regan that we are going to do everything it takes.

I have a genuine affection for the folks of East Palestine, which I know several of my peers on this panel do as well. When you walk around town, you are starting to see yard signs pop up. The yard signs say, "We are East Palestine." It goes on to say, "Welcome to America's greatest comeback story." Senator, I want to make sure that that happens.

Senator CARPER. We have a great opportunity here, if we can collaborate and work together, to lift up, not just to lift up, not just to address the immediate problems and crisis, but actually to empower the people of East Palestine and the communities around them, to empower them. I think that is a good thing that can come out of this.

Senator Capito, thanks so much for your work on this.

Senator CAPITO. Thank you.

In my opening statement I said we need to find out what went right and what went wrong. I really appreciate the comments of what went right.

I am going back to the other side. I am still very disturbed about the communication issue. We have seen it already in the panel.

Ms. Vogel said initially there were some, you had the need to refute poor information and there were some communication gaps. Mr. Brewer has said there were some communication gaps at least as far as one car to five cars and maybe some other things. I understand in the haze of what was going on at the very beginning, some of that is going to occur.

Senator Stabenow said she did not know, and her Governor did not know that cars were being brought to Michigan carrying hazardous materials. It seems even though the EPA has to Okay where Mr. Shaw and Norfolk Southern take these materials, who is supposed to do it? Ms. Shore said that Mr. Shaw was supposed to. It seems to me it would be a shared responsibility.

All I am getting back to is if you are sitting here in East Palestine or Beaver County, Pennsylvania, you are seeing this huge pile of hazardous materials and you are smelling it.

I am coming from this as being from the community of Charleston, West Virginia, that had a chemical spill in the early 2000's that everyone told us it was safe to drink but it still smelled. You just lose your trust in what people are telling you. This is what the neighborhoods and the surrounding areas are doing.

When I asked the question, where is this material going, both Ms. Shore and Mr. Shaw said, it is going somewhere but we do not know where. What does that do to trust? I do not know. Are the

trucks moving or not? Were they stopped in Michigan or not? Why were they stopped in Michigan?

All these questions. Then the people still living there have to look, smell, and fear.

I think we just need to get to transparency of where this material is going, how long it is going to take it to get out, how deep does it have to go. All these questions that people are asking, because they want this over.

That is what you are trying to do, trying to get it over and make it safe.

So as we go to lessons learned on the communication, I would just hope in the after-report we know is going to be generated that this is really a key part of what everybody looks at from all the different respondents, both from Norfolk Southern all the way to the people right there. Do you know what is burning, do you have the right equipment, do you have the right firefighting equipment, because chemical fires are different than other kinds of fires. I do not need to tell you your business but you know all that.

I am still very concerned about the communication aspects. I know Governor DeWine has been right there, front and center. I want to thank him for that, and you all too. That is my comment.

My question is for Mr. Harrison at ORSANCO. The reason I am interested in this is because that Ohio River feeds a lot of our water systems in West Virginia. What is coming down through there is so critically important. ORSANCO does a great job. I know you did multiple testings.

Why were you uniquely positioned to respond as well as you did? Your information was coming out quickly, your tests were coming out quickly. My understanding is your tests and Ohio's tests were coming out much more quickly than the EPA's tests. Is there truth to that? Why can you come and respond as quickly as this?

Mr. HARRISON. Thank you, Senator, for that question and confidence in ORSANCO. I appreciate that.

We have been working to protect the Ohio River as a drinking water and industrial water supply for 75 years. Through our preparations, I have a great team of 22 professionals and our partnerships, we have been doing this for decades.

As we worked with the drinking water utilities, we have a partner, Greater Cincinnati Water Works, that ran companion testing with us. So we had results we could put on our website that went through proper QAQC very quickly. We had the encouragement of Governor DeWine and Director Vogel to get that up as soon as possible so we have been doing that.

We have been able to show a map of where the sampling is occurring, and we have been able to update that as we get new results from Greater Cincinnati Water Works. Then we also have our screening data.

This is something that we prepare for. We work closely with our thirty drinking water utilities, and our State agencies. Although this is certainly a challenge, we respond and work through numerous spills. This is through preparation.

Senator CAPITO. Does anybody want to comment on the communication tirade I just had? Are there ways to improve that or am I over-exaggerating?

I am just looking at it from the eyes of a homeowner sitting in East Palestine seeing this mess in front of them and trying to figure out, when can I make sure that I can bathe my child in the water and feel it is 100 percent safe.

Do you all have any suggestions on how to make communications better, quicker, faster and more accurate? If you leave a gap, you see what happens in the gap. Ms. Vogel, did you have a suggestion?

Ms. VOGEL. Senator, I can comment on one thing that Governor DeWine began doing about 2 weeks ago, which is putting out a daily email and posting on the website, or a press release. It goes out daily and contains all of the facts you are talking about, to say where exactly the waste is going, how much is going offsite, what sampling data is back, what test results are back, exactly to your point to make sure that we are providing good information on a daily basis.

Senator CAPITO. Mr. Shaw?

Mr. SHAW. Senator, similarly, we set up a website, nsmakingitright.com, which has very similar information. It also has updates on how to get in touch us, how to reach the Family Assistance Center, and points folks to the EPA website and testing data, and the Ohio EPA testing data.

I am asking for input from the citizens of East Palestine every day on how to make that website better.

Senator CAPITO. Anybody else? Director Shore?

Ms. SHORE. Ranking Member Capito, I just want to add that under the Order, Norfolk Southern submitted a very comprehensive work plan to the unified command late Monday evening. It is being reviewed, and I have asked our team on the ground to issue weekly notices of, here is the work plan for the week; here is what you can expect to be done as residents; here is what you may be seeing, or hearing or smelling, and here is who to call if you have questions.

Going forward, we will have the weekly work plan available so residents in the community know what to expect.

Senator CAPITO. I guess what I am gleaning from this, and then I will stop, Mr. Chair, is maybe these daily progressions of what is going on, try to start as close to day one as possible so you do not have these gaps in communications, misunderstandings, and all that.

I appreciate all of you coming. Thank you for what you are doing for the great citizens of Ohio and Pennsylvania. We are right in there, right in between. So we appreciate that. Thank you.

Senator CARPER. Like you said, Senator Capito, let me say how much I appreciate your work on this. I want to thank your staff. This has been very much a team effort.

I want to also thank the Majority staff as well. One is sitting to my right, the other is sitting to my left, but they are really a team. I am proud of that teamwork. We are stronger together.

I want to ask a question of Mr. Shaw if I can. My staff just handed me some information about the Norfolk Southern train we heard about just a little bit ago today that derailed in Calhoun County, Alabama. There were 30 train cars in the train. All were empty, fortunately. The local sheriff reported there are no injuries and no property damage. That is a good news-bad news story.

I spent a lot of my life in the Navy and airplanes and thought a lot about safety. My wife worked for Dupont for many years. She was very much involved. It was a safety company, as you may know. She thought a great deal about safety.

I might have this wrong but we had the disaster in East Palestine around February 3d; we had Springfield, Ohio the beginning of this month; Cleveland, Ohio, where one of your employees' life was lost; and now the incident in Calhoun County.

I understand the National Transportation Safety Board is going to be examining the safety culture of Norfolk Southern. You probably welcome that. If I were in your shoes, I would.

It is more than disconcerting. It is concerning. It is a trend that is troubling to me and my guess is it is troubling to you as well. I hope that it will get the kind of serious attention it needs.

When I was walking into the hearing, I was asked by the press, as I am sure Senator Capito was, what we hoped to accomplish here. I mentioned I had several questions that I want to see answered.

One of those was, what went wrong? How did this all happen in East Palestine? How did it happen? What went wrong? What are we doing to help the families whose lives have been upended in any number of ways?

The other question that I mentioned coming into the hearing was how can we reduce the likelihood that similar disasters like this will happen again in Ohio, or Pennsylvania, or Delaware, or West Virginia? How can we reduce that?

I have said for everything I do, I know I can do better. Everything I do, I know I can do better. I think that is true of us all. I could go back to the Constitution of our country and the Preamble of the Constitution says, "We the people of the United States in order to form a more perfect Union." It doesn't say to form a perfect Union, it says a more perfect Union.

The expectation all those years ago and still today is for us to do better as we go forward.

I have a printed statement here, I am going to read this as well, and then and close with one more comment straight from my heart.

In closing, I want to thank our witnesses for your time and testimony today. I want to thank our colleagues who came and testified before us today and those that are working in a bipartisan way on legislation to help address these concerns.

I especially want to thank the Ranking Member for what has truly been a bipartisan hearing. I think folks, people around the Country think we never work together here, we do not accomplish anything, we do not cooperate on anything. They would be pleasantly surprised if they could be in this room with us most of the year. That is the way we work together and we get a lot done.

Today's hearing provided some much-needed answers for the American people to learn more about what happened in the days and weeks after the Norfolk Southern train derailment and subsequent release of chemicals.

We also learned that EPA and its State partners were on the ground within hours and are still there today. We heard from local officials that Norfolk Southern poorly communicated with them initially and that created mistrust in the community, at least initially.

One of the things I am concerned about, I am not a big fan, as I said, Mr. Shaw, of yes or no answers. That is not usually my style. I didn't think we heard as many unequivocal yeses as I might like to have. We might want to revisit that at another time.

This doesn't help to alleviate the committee's mistrust, but I am relieved to hear the testimony regarding the safety of air and water and the attentiveness of Federal, State and local responders. I hope the community feels they have gotten some answers today.

I will say this again, we stand with the people of East Palestine and surrounding communities. I know I speak for Senator Capito, I commit to hold Norfolk Southern's feet to the fire to make sure this community is made whole.

There is clearly a lot more to discuss with respect to safety for rail and hazardous materials. I expect the Commerce Committee will pursue these questions in the next few days in their own hearing on this topic.

I think it was Bill Gates who once said, "It is fine to celebrate success but it is more important to heed the lessons of failure." It is fine to celebrate the success, but it is also important to heed the lessons of failure.

In this circumstance, I believe we must heed the lessons we learned today about this disaster. American lives and livelihoods depend on that. If we are smart, we will put our differences aside and work together to support the impacted communities and collaborate on policies that will ensure that an accident like this doesn't happen again.

Before we address that, I need to do a little housekeeping. I ask unanimous consent to submit into the record some materials related to today's hearing that include a letter from the Governor of Pennsylvania, who I talked with over the weekend. I referenced that letter earlier, and articles, independent analyses and other materials related to the accident.

Hearing no objections, so ordered.

[The referenced information follows:]



**GOVERNOR
JOSH SHAPIRO**

February 14, 2023

Alan Shaw, President and CEO
Norfolk Southern Corporation
1200 Peachtree Street, NE
Atlanta, GA 30309

Dear Mr. Shaw:

I am writing to express my serious concerns regarding Norfolk Southern Corporation's management of the Norfolk Southern train derailment that occurred near East Palestine, Ohio on February 3. The derailment occurred approximately a quarter mile from the Pennsylvania state line and has had a significant impact on the residents, businesses, and environment in Beaver County.

Earlier today, I met with elected leaders and emergency management officials in Beaver County, including State Senator Camera Bartolotta, State Rep. Josh Kail, State Rep. Jim Marshall, State Rep. Robert Matzie, Beaver County Commissioners Dan Camp, Jack Manning, and Tony Amadio, and Beaver County Emergency Services Deputy Director Kevin Whipple, who share my concerns about Norfolk Southern's poor handling of this incident.

The Pennsylvania Department of Environmental Protection (DEP) and Pennsylvania Emergency Management Agency (PEMA) were not immediately contacted by Norfolk Southern and learned of the incident independently in the first few hours after it occurred and immediately began monitoring for impacts to the residents, businesses, and environment in the Commonwealth. Through this process, DEP and PEMA observed at least three priority issues with Norfolk Southern's management of the response that put the safety of our first responders and residents at significant risk.

First, Norfolk Southern failed to implement Unified Command, creating confusion and resulting in a general lack of awareness for first responders and emergency management of the tactics Norfolk Southern planned in response. Early in the incident, Norfolk Southern personnel separated themselves from the rest of the incident management structure at the Incident Command Post to conduct separate operational and tactical planning, forcing state and local response agencies to react to tactics that were developed unilaterally and without the combined input of key state agencies.

Mr. Shaw
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Second, Norfolk Southern gave inaccurate information and conflicting modeling about the impact of the controlled release that made protective action decision making more difficult in the immediate aftermath of the derailment. Norfolk Southern failed to notify state and local response agencies initially of their intention to vent and burn all five cars containing vinyl chloride, rather than just the single car Norfolk Southern personnel identified originally. Furthermore, Norfolk Southern failed to immediately inform authorities as to the number of rail cars that contained dangerous chemicals. Norfolk Southern's failure to participate in the Unified Command and share accurate information led to confusion and wide variability in potentially affected population estimates in the downwind plume impacting the Commonwealth.

Third, Norfolk Southern's unwillingness to explore or articulate alternate courses of action to their proposed vent and burn limited state and local leaders' ability to respond effectively. As discussed, Norfolk Southern response personnel improperly planned tactical response operations without adequate input from elected officials, local response organizations, or state agencies, resulting in a single plan of action to vent and burn all five cars without allowing for input from Pennsylvania emergency management leaders. Norfolk Southern failed to explore all potential courses of action, including some that may have kept the rail line closed longer but could have resulted in a safer overall approach for first responders, residents, and the environment.

While I appreciate that responding to train derailments presents an array of complex challenges, failure to adhere to well-accepted standards of practice related to incident management and prioritizing an accelerated and arbitrary timeline to reopen the rail line injected unnecessary risk and created confusion in the process. You can be assured that Pennsylvania will hold Norfolk Southern accountable for any and all impacts to our Commonwealth.

Norfolk Southern has repeatedly assured us of the safety of their rail cars — in fact, leading Norfolk Southern personnel described them to me as "the Cadillac of rail cars" — yet despite these assertions, these were the same cars that Norfolk Southern personnel rushed to vent and burn without gathering input from state and local leaders. Norfolk Southern's well known opposition to modernized regulations require further scrutiny and investigation to limit the devastating effects of future accidents on peoples' lives, property, businesses, and the environment.

While regulation of the railroad industry is largely the purview of our federal partners, we plan to take direct action here in the Commonwealth of Pennsylvania. I have called on the Pennsylvania Public Utility Commission, which is charged with oversight of the Commonwealth's railroads, to review Norfolk Southern's conduct and report back their findings. Like me, members of our state legislative delegation are troubled by the conduct of Norfolk Southern during this incident. As they proceed with their review and

Mr. Shaw
February 14, 2023
Page Three

oversight responsibilities, I have pledged offered the full cooperation of my Administration in order to help them facilitate holding your company accountable to Pennsylvanians.

I have also spoken directly with the President of the United States and the U.S. Secretary of Transportation, who have both pledged their full support to the people of Pennsylvania and have been constructive partners during this process. I urge the federal Pipeline and Hazardous Materials Safety Administration (PHMSA) to reexamine what constitutes a high-hazard flammable train and revisit the need for regulation requiring high-hazard flammable trains to carry more advanced safety and braking equipment.

As you conduct your after-action report, I expect you to address these concerns and report back on what steps you are taking to rectify the situation and ensure this does not happen again.

I await your response.



Governor Josh Shapiro

CC:

Secretary Pete Buttigieg, United States Department of Transportation
Senator Bob Casey
Senator John Fetterman
Congressman Chris Deluzio
Acting Attorney General Michelle Henry
State Senator Elder Vogel Jr.
State Senator Camera Bartolotta
State Representative Jim Marshall
State Representative Josh Kail
State Representative Robert Matzie
Beaver County Commissioner Dan Camp
Beaver County Commissioner Jack Manning
Beaver County Commissioner Tony Amadio
Beaver County Emergency Services Deputy Director Kevin Whipple
Chairman Gladys Brown Dutrieuille, Pennsylvania Public Utilities Commission

Congress of the United States
Washington, DC 20510

November 15, 2018

President Donald J. Trump
The White House
1600 Pennsylvania Avenue NW
Washington, DC 20500

Dear Mr. President:

We write to support the Commonwealth of Massachusetts's request for a Major Disaster Declaration following the Merrimack Valley natural gas explosions in September 2018. This disaster impacted thousands of residents and businesses in the communities of Lawrence, Andover, and North Andover and has placed a significant hardship on the region.

On September 13, 2018, a pipeline operated by Columbia Gas became over-pressurized, causing three explosions, triggering dozens of structure fires, and leaving at least 19 homes permanently uninhabitable. Thousands of residents in these communities were forced to immediately evacuate. The disaster injured 25 people, including first responders, and killed one person – an 18-year-old named Leonel Rondon. Residents were not allowed to return to their homes for several days, and the region remains without gas service. According to Columbia Gas over 7,700 individuals have required alternative housing during the recovery period, including 2,683 children.¹

That same day, a Unified Command Center was established in the City of Lawrence to coordinate emergency response activities across the three communities. Emergency teams immediately began working around the clock to ensure safe conditions, including firefighters from 180 different municipalities and more than 660 law enforcement personnel from 140 different police departments.² Local organizations including the American Red Cross and the Salvation Army also assisted residents by serving more than 9,500 meals and providing temporary shelter until residents could safely return home.

Governor Charlie Baker declared a State of Emergency on September 14th, and the Occupational Safety and Health Administration (OSHA), Massachusetts Office of Public Safety and Inspections (OPSI), Massachusetts Department of Fire Services, Massachusetts Emergency Management Agency (MEMA), and local building inspectors began conducting damage

¹ Columbia Gas, "Daily Briefing," November 13, 2018

² Letter from the Commonwealth of Massachusetts Office of the Governor to President Donald Trump, November 9, 2018

assessments of impacted structures. After the areas were determined to be safe, Governor Baker directed the establishment of an integrated Recovery Team, which was comprised of local and state officials; representatives of Columbia Gas and its parent company NiSource; and other private sector companies involved with restoration and recovery efforts. The Recovery Team determined that full restoration of the residential units and businesses would not be complete until November 19, 2018 and would require the full replacement of 48 miles of pipeline and the assessment and possible replacement of 5,086 service lines and the gas meters, lines, boilers, and furnaces of 7,300 residential units and 685 businesses.³ However, at the end of October, Columbia Gas announced it would not be able to meet the November deadline, delaying final restoration by nearly a month to December 16, 2018. To date, local, regional, and state entities who participated in these emergency response efforts have spent \$2.7 million.⁴

These communities and the Commonwealth have incurred significant disaster response and recovery costs as a result of the short- and long-term problems associated with the Columbia Gas pipeline over-pressurization. Federal assistance is critically needed to help the Commonwealth repair and replace pipeline and gas infrastructure, homes, and businesses that were damaged or destroyed by the gas explosions and gas service disruptions. We respectfully urge your timely approval of this request and we thank you in advance for your fair and full consideration.

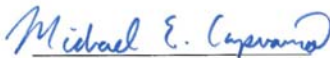
Sincerely,



Elizabeth Warren
United States Senator


Edward J. Markey
United States Senator


Richard E. Neal
Member of Congress


James P. McGovern
Member of Congress


Michael E. Capuano
Member of Congress


Stephen F. Lynch
Member of Congress

³ *Ibid*

⁴ *Ibid*


Niki Tsongas
Member of Congress


William R. Keating
Member of Congress


Joseph P. Kennedy III
Member of Congress


Katherine Clark
Member of Congress


Seth Moulton
Member of Congress



#

**A2LA
Statement
to the
United States Senate Committee on Environment & Public Works
regarding the hearing on
Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train Derailment and
Chemical Release in East Palestine, OH**

The American Association for Laboratory Accreditation (A2LA) is deeply saddened by the rail tragedy that occurred in Palestine, OH on February 2, 2023. We hope that conditions continue to improve for the citizens of Palestine and the surrounding communities and environment.

We are concerned with the magnitude of this specific incident and the trend of train derailments occurring across the nation.

The proposed Railway Safety Act of 2023 would rely on inspections as a tool to identify equipment and infrastructure failures. We are concerned that the proposed act focuses on *time* as an essential component but not on the *quality* of the inspection. By requiring high quality, objective inspections conducted by accredited, independent, third-party inspectors, the Railway Safety Act may be strengthened. This arrangement will facilitate inspections that are objective and technically robust. Current practice is to rely on railway owner inspectors which may not provide the objectiveness necessary to assure an effective inspection.

ISO/IEC 17020 provides the standards for the operation of inspections. The requirements define and document the performance and the competencies needed for all personnel involved in inspection activities. They also address equipment needs, recordkeeping, inspection procedures, audits and management reviews, impartiality, and corrective and preventive actions.

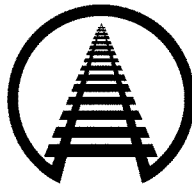
Accreditation is an objective process that determines the technical competence and impartiality of organizations conducting testing and inspections. When an organization is accredited, it has demonstrated that a prescribed level of technical competence has been achieved. Accreditation of inspectors means increasing the confidence in data produced, eliminating redundant reviews, providing a means of qualifying contractors, building greater public trust, and redirecting government resources to enforcement and oversight. We recommend that the legislation mandate that inspection bodies be ISO/IEC 17020 accredited by an International Laboratory Accreditation Cooperation (ILAC)-recognized accreditation body.

Established in 1978, A2LA provides independent, world-class accreditation programs that inspire confidence in the quality and security of services and acceptance of results from our accredited organizations. A2LA, a nonprofit accreditation body with over 4000 actively accredited organizations, supports a broad array of industries including food and agricultural testing, environmental, pharmaceutical, aerospace, mining, telecommunications, defense, clinical, consumer products, construction, electrical and automotive.

A2LA appreciates the opportunity to provide a statement to the U.S. Senate Committee on Environment and Public Works for this hearing and for the consideration of these remarks. We welcome the opportunity to work with you to establish legislation that can help assure the safety of all Americans and protection of the environment, all while providing the safe delivery of passengers and goods.

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TESTIMONY OF
IAN JEFFERIES
PRESIDENT & CHIEF EXECUTIVE OFFICER
ASSOCIATION OF AMERICAN RAILROADS



BEFORE THE
UNITED STATES SENATE
COMMITTEE ON ENVIRONMENT & PUBLIC WORKS

HEARING ON:
PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT IN THE
WAKE OF THE NORFOLK SOUTHERN TRAIN DERAILMENT AND
CHEMICAL RELEASE IN EAST PALESTINE, OHIO

MARCH 9, 2023

Association of American Railroads
425 Third Street SW
Washington, DC 20024
202-639-2100

Introduction

On behalf of the members of the Association of American Railroads, thank you for the opportunity to discuss rail safety and the transportation of hazardous materials by rail. AAR freight railroad members account for the vast majority of railroad mileage, employees, and freight traffic in Canada, Mexico, and the United States.

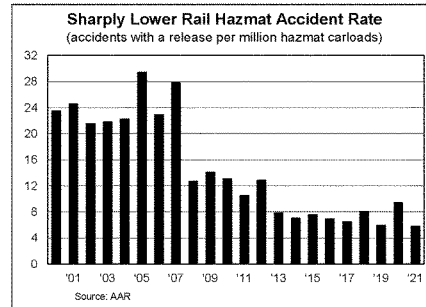
Let me make absolutely clear at the outset that, for freight railroads, pursuing safe operations is not an option, it's an imperative. Railroads know that families deserve to feel safe within their communities. That's why railroads are steadfastly committed to solutions-oriented steps to prevent accidents from occurring.

Unfortunately, the recent train accident in East Palestine, Ohio, has led some to question railroads' commitment to safe operations and their ability to operate safely. Railroads know they have to restore confidence and demonstrate that nothing is more important to them than the safety of their employees, their customers, and the communities in which they operate. Every rail accident is one too many, and railroads' ultimate goal is to eliminate accidents altogether.

Actions speak louder than words, of course, which is why railroads will continue to take meaningful actions, as they've been doing for many years, to enhance safety. These actions will continue to be driven by good-faith, cooperative efforts with policymakers, suppliers, customers, and rail employees; sustained private investment in infrastructure, equipment, and safety technologies; the modernization of operating and maintenance practices; effective employee training; and steadfast adherence to pertinent laws and regulations.

Rail Safely Moves Hazardous Materials Daily

Railroads are the safest mode for transporting hazardous materials. Rail hazmat accident rates — accidents that result in hazmat releases as a percentage of total hazmat carloads — fell 75 percent from 2000 to 2021. In 2021, there were just 13 train accidents that involved the release of hazardous materials,



with just 23 hazmat carloads releasing their contents.¹ According to the Bureau of Transportation Statistics, the last fatality caused by hazardous materials transported by rail occurred over a decade ago. That safety record compares very favorably to hazardous materials moved on highways.²

Today, well over 99.9% of rail hazmat shipments reach their destination without a release caused by a train accident. The rail industry will not rest until it can eliminate the accidents that remain. Until that day, the industry will continue to take measures to meaningfully boost safety, prepare communities, and make them whole following any incident.

Although most commodities carried by rail pose little or no threat to anyone or anything, some commodities are classified as hazardous. In a typical year, U.S. railroads transport approximately 2.2 million carloads of hazardous materials. Depending on the year, hazardous materials account for 7 percent to 8 percent of rail carloads. Ethanol, crude oil, and propane make up the highest volume of hazardous material carried by rail, but countless other products

¹ An accident involving hazmat carloads can lead to the release of product from more than one railcar.

² <https://www.bts.gov/content/hazardous-materials-fatalities-injuries-accidents-and-property-damage-data>

that are indispensable to our nation's economy, health, and standard of living are also moved by rail.

Railroads want all their shipments to travel safely, but they have consistently taken concrete steps dedicated specifically to making hazmat transportation safer and hazmat accident response and mitigation more effective. A few examples include:

- Railroads, several federal agencies, and outside experts collaborated several years ago to produce the web-based "AskRail" app. AskRail allows emergency responders to input the identification number of a particular rail car and immediately determine the commodity contained in that car, its hazard class, emergency response information associated with the commodity, and other information. Emergency responders in East Palestine used AskRail to quickly obtain information on the railcars involved in that accident.
- Emergency responders have control of the response to railroad accidents in which hazardous materials are spilled. If an accident occurs, railroads work closely with the responders and appropriate local, state, and federal officials to ensure proper community protections. Railroads reimburse local authorities for the costs associated with their response efforts.
- Railroads provide thorough information to emergency response agencies on hazardous materials moving through their cities and towns.³
- Railroads and several federal agencies jointly developed the Rail Corridor Risk Management System (RCRMS), a sophisticated statistical routing model that incorporates 27 risk factors (including hazmat volume, trip length, and population density along the route) to aid railroads in identifying the safest and most secure rail routes for transporting high risk hazardous materials.
- Railroads invest well over \$20 billion a year on capital expenditures, maintenance, and technology like wayside determination equipment, track geometry technology, and positive train control.
- Major railroads have teams devoted to emergency response, as well hazmat response contractors and environmental consultants on call 24/7.
- Railroads help communities develop and evaluate emergency response plans. They also provide training for more than 20,000 emergency responders each year through their own efforts and through the Transportation Community Awareness and Emergency Response Program (TRANSCAER).

³ Providing open, unfettered access to the precise location and contents of every train could make those carrying hazardous materials a target for terrorist attacks, which is why railroads limit this information sharing to bona-fide emergency response agencies.

- Around half of all hazardous materials, and nearly all TIH materials⁴, are transported in tank cars. All but a tiny fraction of the 437,000 tank cars in the North American rail car fleet are owned by rail customers and leasing companies, not by railroads. Tank cars built today are vastly improved over earlier generations, with higher grade steel, better thermal protection, improved valves and fittings, often thicker tanks, and other improvements.
- Railroads equip train dispatchers and crews with information about hazmat on individual trains and detailed emergency response information in addition to contact lists for local emergency responders along a train's route.
- Railroads provide hazmat awareness training to all employees who are involved in hazmat transportation. Employees responsible for emergency hazmat response efforts receive far more in-depth training.
- Railroads work closely with chemical manufacturers in the Chemical Transportation Emergency Center (Chemtrec), a 24/7 resource for emergency responders that provides access to chemical product, medical and toxicology experts and assists in the mitigation of hazmat incidents.
- Railroads provide services (e.g., lodging, food) to those displaced by rail hazmat accidents and establish assistance centers and claims teams to assess and meet the needs of displaced community members.

After an initial emergency response is complete, railroads have a less visible, but vital two-fold mission — making things right and taking action to prevent another incident. From taking care of affected individuals' immediate needs to partnering with federal and state agencies and independent experts to address any long-term environmental impacts, railroads work to ensure communities affected by an accident are made whole. In addition, railroads use accidents to assess their operations and apply lessons learned to drive safety enhancements.

Environmental Responses to Rail Hazmat Accidents

Rail accidents involving hazardous substances are rare, but railroads know that an incident can impact a local community dramatically. When an accident involving hazmat occurs, railroads follow strict protocols. They work closely with the Environmental Protection Agency

⁴ "Toxic inhalation hazard" (TIH) materials — gases or liquids, such as chlorine and anhydrous ammonia, that are especially hazardous if released into the atmosphere — are a subset of hazardous materials. U.S. railroads carry around 65,000 TIH carloads in a typical year.

(EPA), the National Transportation Safety Board (NTSB), relevant state and local authorities, and outside experts to immediately contain the situation, protect the health and safety of nearby residents and the environment, and remediate impacts.

Six main federal statutes are pertinent to railroad hazmat prevention, clean up, and mitigation efforts:

- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, EPA can seek out parties responsible for a release and force their cooperation in a cleanup.
- The Resource Conservation and Recovery Act (RCRA) mandates strict standards for the storage, transport and disposal of hazardous substances.
- The Clean Water Act is the principal law governing pollution control and water quality of our nation's waterways. Its main purposes is to restore and maintain the chemical, physical, and biological integrity of U.S. waters.
- The Safe Drinking Water Act (SDWA) requires many actions to protect drinking water and its sources, including rivers, lakes, reservoirs, springs, and ground wells. The SDWA authorizes EPA to set health-based standards for drinking water.
- The Oil Pollution Act requires the development of Area Contingency Plans to prepare and plan for oil spill response on a regional scale.
- The Hazardous Materials Transportation Act tasks the Secretary of Transportation with prescribing regulations for the safe transportation of hazardous materials, which include requirements for packaging, pre-transportation functions, and transportation functions.

Taken together, these laws and their accompanying regulations give the EPA a comprehensive framework to ensure that railroad hazmat spills are properly addressed. Working in conjunction with state agencies, safety experts, and others, the EPA approves cleanup plans, sets required remediation requirements, and oversees remediation efforts from start to eventual finish. The EPA and other federal and state agencies make sure that railroads comply with all regulations as they implement short- and long-term monitoring and remediation plans.

Working cooperatively with these environmental and safety officials, railroads also deploy internal, contracted, and third-party environmental experts to assess the impacts on health and the environment after an incident. These experts use sophisticated equipment to monitor an accident site as well as nearby air quality, soil, and water. Samples are collected and tested by independent third-parties. If applicable, experts are deployed to conduct biological and wildlife assessments along with associated animal rescue.

Long-term monitoring, remediation, and eventual closure of an accident site must meet regulatory requirements and be approved by EPA and state agencies. Throughout the ongoing investigation, the NTSB, EPA, local governments, and railroads maintain constant communications with affected communities. If complete remediation of a site cannot be accomplished before rail service can be safely restored, areas of contamination are identified and delineated. Various types of remediation, and associated site monitoring and testing, are available to ensure that the site is restored to applicable standards. EPA and state agencies remain involved in the process and are informed regarding site conditions. Railroads are committed to supporting communities throughout the process until remediation is complete.

Conclusion

It is deeply unfortunate, in the aftermath of the accident in East Palestine, that some policymakers, pundits, and others have asserted that railroads broadly oppose increased safety regulations. This is categorically false. Railroads have consistently advocated for data-driven solutions that would effectively increase the safety of the rail network.

Some rail efforts have been successful, such the push for DOT to enhance tank car standards for flammable liquids. Other rail efforts, like expanding the use of automated track inspection technologies proven to be far more effective than traditional manual inspections, have been hamstrung by the FRA and are impeding the industry's efforts to improve safety. Railroads

are also disappointed that some are using East Palestine to push for regulatory and legislative changes that have little or nothing to do with rail safety and, if enacted previously, would not have prevented the East Palestine accident. These changes could hamstring railroads' ability to provide essential rail service that moves the American economy without making rail transportation safer.

Our nation's freight railroads share this committee's and the public's urgency in augmenting the safety of all rail transportation. Railroads are committed to continuing our work with local, state, and federal officials; their employees; their customers; their supplies; and other stakeholders to identify additional safety enhancing steps that will make our nation's rail network safer.

My name is Alexander Leslie, of Enon Valley, Pennsylvania. I am writing to share my experience and observations related to the February 3, 2023 train accident in East Palestine, Ohio. I reside on a dairy farm, approximately 7 miles NE of the derailment site. While I first became aware of the accident early on the morning of Feb 4, there were no noticeable effects at our location until the evening of Feb 6.

I received an emergency alert on my phone after 10 PM on Feb 5, indicating that there would be a controlled release of a tanker car the following day, and there was an evacuation radius of 2 miles. On Feb 6, I had followed local news sources throughout the day, and was made aware of the scheduled timing of the release, the contents of the car (vinyl chloride), and the potential health hazards of exposure to it. By 4:45 PM, smoke was visible from the direction of East Palestine, and by 5:45, the smoke had reached our location and began to darken the sky. At approximately 6:30, I went outside, and the sky was darker than normal, there was a notable chlorine smell in the air, visibility was significantly reduced due to a thick haze, and it was unusually silent outside. Upon returning to the house, I began to search for information regarding any air quality hazards, as there was no prior indication that our location would be affected. While I had a limited understanding of the nature of vinyl chloride, it was at that point I became aware of its hazardous combustion products, and became concerned about our level of exposure. Real time information about the air quality was limited at best. I found a Facebook post from an official Lawrence County agency which indicated that air quality was being measured, and was not at any concerning levels. I spoke with a neighbor, who had placed a phone call to DEP, and confirmed this information. I stepped outside at approximately 7:45, and determined that the air quality was the same as before. At 8:15, I noticed our indoor air purifier had automatically increased the fan speed to its higher setting to match degrading indoor air quality (Air Doctor with particulate matter sensor, PM2.5). I placed a call to the National Weather Service Pittsburgh Office at 8:31 to ask about the meteorological conditions. I returned outside at approximately 9:00, and situation had improved significantly, visibility had returned to normal, and the smell was gone. There were no noticeable impacts at our location the following morning.

I made the following observations while out tending some animals at 6:30: The smoke had a faint chlorine smell, similar to that of a swimming pool, but smelled slightly smokey/burnt. Visibility was significantly reduced, such that the lights on a nearby cellular antenna appeared blurry. The tower is situated approximately 1400' from where I stood and approximately 300' tall, with lights at the top and midsection. From that observation, I would definitively gauge that there were significant levels of particulate matter at elevations below the 300' level. Under normal conditions there is constant ambient noise from traffic on I-76, which is 1.25 miles from my house. During the timeframe in question, my surroundings were completely silent, with a notable absence of noise from traffic, wildlife, or any other sources. I believe this would be further evidence of significant particulate matter at low levels, dampening any sound.

I became concerned over exposure to whatever unknown chemical compounds were present in the smoke cloud, and tried to determine if it best to continue to shelter in our house, or to take my three young children a safe distance away. In an effort to determine how the current weather would aid dispersal of the pollutants throughout the evening, I placed a call to the National Weather Service office in Moon Township. I spoke with a meteorologist there who indicated that they had observed a temperature inversion at approximately 3000', and anticipated that it would remain at that level until morning. He did not offer any guidance as to whether to stay, or evacuate. Based on this information, I had decided to stay put as long as the situation improved within the next few hours, which it did. However, this brought me to the conclusion that the weather conditions were not at all appropriate for this course of action. As a result, the inversion layer created a ceiling, preventing the smoke (which almost certainly contained dioxins, and other very toxic products of incomplete combustion) from dispersing into the upper layers of the atmosphere. Instead, it was forced to spread out over a much

larger area, and remain much closer to the ground, where it could potentially cause the most harm. I had a conversation with a classmate, who indicated they observed odors the morning after the burn. They are located over 30 miles north of East Palestine.

There was no evidence of any negative impact the following day (and as of today, March 6, there has been no evidence of health implications in any of my immediate family, or livestock). Official information was limited over the days following this event, and has only seemed to trickle out to the public (including the complete list of chemicals released by the accident). I have had to look to sources outside of the EPA and Norfolk Southern to try to grasp the details of this situation. Knowing what I now know, I have great concerns over the potential for long term impacts on my farm land from the compounds that were potentially deposited by the smoke. It is very likely that dioxins, furans, and PCBs were created and dispersed across the region, despite the assurance from the EPA that air quality was ok (even though they were not monitoring for these compounds for the first 3 weeks following the accident).

My family owns approximately 200 acres of ground in Little Beaver Township, which we have farmed for over 200 years. We produce grass-fed milk, beef, eggs, poultry and pork in addition to raising garden vegetables for our own consumption. The lion's share of my family's sustenance, along with that of a number of other families, relies on the health of our soil. If our soil is contaminated, how could I continue on this path? Everything I have spent my life working for, along with the work of six generations before me, is in jeopardy. I am hopeful that the exposure was limited, and we can move past this (although many who live closer, may face a much harsher reality), but I will never know for certain unless proper testing is done. Unfortunately, this testing is not available at an individual level, so I am forced to rely on the testing to be completed by the EPA, and Norfolk Southern, who, have not been transparent, and appear to have interests other than properly rectifying this situation.

It is my personal opinion that the response to this disaster has been a travesty. I have seen the stories of so many people in this community who have been affected in countless ways, the devastation it has created will be felt for an entire generation. Yet, a month later, people are still asking questions that no one seems interested in answering. I would love to comment on many of these topics and offer suggestions to how they might be corrected. However, I have limited the scope of this testimony only to what I have witnessed firsthand. I believe that the following items should be addressed in an effort to provide some remedy to this situation, and prevent this catastrophe in the future:

1. **Testing for Dioxins, Furans, PCB, and any other harmful combustion products of the chemicals involved needs to be more robust.** This testing is critical to ensure that normal farming operations can continue in the region. Due to the large area of impact, testing must be completed at distances outside the immediate area of the crash site. It is also imperative that split samples be taken, and analyzed by either the state DEP, or other organization/agency, and tested independently. Community oversight would also be very beneficial to provide the best level of transparency.
2. **Chain of command and communication for emergency response decisions should be examined.** There is much skepticism that the best course of action to avoid an explosion was to release 5 tankers worth of chemicals into the atmosphere. It is also concerning that those of us in the surrounding area had no advance notice that there would be impacts outside the evacuation zone.
3. **Carriers of dangerous chemicals must have a better response plan.** If Norfolk Southern had a plan to handle an event like this, it was not written well enough. It took several days for a listing of all the chemical to be released to the public. Could the tankers have been cooled down in the 48 hours prior to it reaching a critical level? Could we have limited the amount of chemicals released into the waterways? There are many complexities to this

situation that need to be planned for in advance, as time and resources are limited during an emergency response.

A train derailment occurred on February 3, 2023, at 8:55 p.m. EST, when 38 cars of a Norfolk Southern freight train carrying hazardous materials derailed in East Palestine, Ohio, United States. We were not aware of this until it came over the news Saturday morning. This is when we learned that several railcars were burning and that they contained toxic chemicals. We watched the news report for two more days while the cars were still burning, they reported that emergency crews were going to conduct a controlled burn of five railcars at the request of state officials, which would release hydrogen chloride and phosgene into the air. We pulled up our security video from that night of Friday's train derailment and watched the fire as the cars were burning. We only live 3.25 miles from the derailment. There was an odor in the air on Saturday morning when we went outside. The odor was stronger Saturday night, my eyes did feel like they were burning and my nose was starting to run. The news reports just got worse. We stayed inside as much as possible trying not to breathe the foul air. Monday was when they decided to do the controlled burn and were evacuating the area around the site. First it was a one mile radius, then they decided to go out two miles. Again we only lived 3.25 miles out. On Monday they reported the controlled burn was going to be at noon, then three o'clock and finally around five o'clock. We decided to leave that afternoon around two-thirty. It just didn't sound like they knew exactly what they were doing. We got back Tuesday afternoon and again we watched our security video of the controlled burn. After we watched the security footage we were beside ourselves. Now the fear and uncertainty started to set in. Watch my videos and you'll see for yourself why we are concerned and have a fear of the unknown. We contacted our Governor Josh Shapiro and all we got back was a form letter. We also contacted the EPA for soil and water testing. The response from them was, we are only testing two miles out for now until we get the results back. Please watch my videos to show how this toxic chemical cloud came over our house and the community in Lawrence County.

Links to security footage:

Looking Southwest #1 <https://www.youtube.com/watch?v=RaRARlaMHM8>

Looking Southwest #2 <https://www.youtube.com/watch?v=peiSgj-Z40U>

Looking Southeast <https://www.youtube.com/watch?v=PxxYGopS5Wg>

Charles and Rhonda Dean
Enon Valley, PA

My name is Stuart Day, I live in New Galilee PA on a small organic farm. We are about 7 miles from the train derailment.

When the train derailed we tried to pay close attention to what was going on. Particularly when it became clear there were hazardous materials involved. We watched the news and wind projections closely every day. What was disturbing to me in this period – prior to the controlled burn – was that the majority of information available came mostly from random folks on social media. The “experts” at the EPA, DEP, in government positions, and in the media provided very little information and the information they did provide didn’t seem believable or trustworthy given what we were seeing.

The day of the controlled burn, Monday the 6th, I was working in my shop on the farm. My wife had just checked in with friends of ours who are closer to East Palestine to see how they were doing. Her friend told her that they were evacuating because her husband didn’t like “what they were about to do”. My wife asked what she meant and that is how we found out about the plan to conduct a controlled burn. Not from the news. Not from the DEP. From a fortuitous text to a friend about 15 minutes before they did it.

So we looked at the wind maps, we checked the news, and everyone in an official role made it sound very clear that it was only a 1-2 mile radius of people who would be impacted. The wind was blowing away from us. We shouldn’t have any issues upwind 7 miles away. So, we nervously went about our day.

Around 5:30 I walked out of my shop and witnessed incredibly strange and ominous clouds hanging over our farm and filling our valley. I remember seeing them and just thinking they were strange. They looked like very dark, fluffy storm clouds but were hanging extremely low just above the trees and had a haze underneath them around the ground. They were very still but looked as though they were rolling into the valley from the south. I checked my phone to see if I could find any info and all I saw was that experts had expected the plume to impact 1–2-mile radius and to move at a mile per hour. I thought it couldn’t be from the controlled burn so it must have just been a strange inversion or weather event. I went inside.

Around 7 my neighbor texted me and asked if I smelled anything on the farm. I stepped outside to see and as soon as I opened the door it was like getting hit in the face with a thick wall of chlorinated fumes. I came inside and my wife and I began to panic a bit because we have a drafty old farmhouse. Our one year old daughter was asleep in her room and our 7 yr old son was up with us. I went down into my shop to grab my masks (two masks with VOC cartridges that I have for work) and got my dog out of her kennel and put her in my shop.

The next few hours we looked through dozens of websites to learn about the chemicals they burned, what happened, and to try to find any info about what to do.

I called the emergency hotline of the DEP and spoke to someone who was unhelpful. He was more surprised that I smelled anything than concerned and basically told me “if it was him he would shelter in place” which wasn’t based on any expert guidance, just his feeling. In that conversation he told me “I shouldn’t be smelling anything at that distance” and I just felt like I was almost being accused of lying when the reality was I was CLEARLY experiencing very strong fumes.

I called a hotline for the EPA and received the same information the news had “No detection of harmful chemicals in the air at this point”. Which was just false. Completely and obviously false.

I posted on Facebook to see if anyone had more information than I had and everyone said we should get out. The problem was that I felt reasonably comfortable leaving with masks for my wife and I and I could cover my sons face with towels but I didn’t know how to cover our 1 year old. I was certain she would have a big exposure just getting her from the house to the truck and then how ever long it would take to drive out of the fumes.

A friend sent me a link to a hotline that was set up in Beaver county for questions about the derailment and the person I talked to there was equally unhelpful and unconcerned. I told him I was concerned about hydrochloride gas and Phosgene and he said “no, it was vinyl chloride and they burned it all off” I didn’t bother arguing with him because he just repeated the same crap from the EPA. He told me “We could stay or we could leave, it was my call” which is like the opposite of informed expert emergency guidance.

We ended up sheltering in place and the fumes and clouds were gone the next morning.

Since then, I developed a bit of a cough, I’ve had periodic headaches and bouts of fatigue. My wife has developed terrible bronchitis, going on three weeks now. She has had x-rays done and it is documented as chemical exposure. Our one-year-old daughter had a cough for about a week after the burn.

The “clinics” that have been set up in places like Darlington are a joke, they provide no meaningful help, it’s just a place for the EPA and other officials to continue parroting information about air and water quality being fine or being taken care of. My wife went to her primary physician who told her they have received essentially no guidance in treating people coming to them with exposure symptoms and there are no tests she is aware of for dioxin exposure in blood or urine.

Our animals seem OK for now.

While many of our friends seem to have been hit harder and longer than us, I have been increasingly frustrated and angered by the EPA, the DEP, and other officials in their handling of this crisis leading up to the controlled burn and since. The very quick lifting of the evacuation order seemed to be rushed in order to brush this under the rug and it was just astounding to me that that first 24 hours was mostly spent getting trains running again instead of making sure the community was actually safe.

Even now, Norfolk is still controlling the cleanup. They are running dozers down the streets of East Palestine with potentially contaminated dirt falling off their treads and just a day or two ago, Norfolk southern’s “Dams” for controlling the chemical in Leslie run creek breached and flooded a local park with contaminated water. Rail workers and cleanup workers have already reported signs of illness and chemical exposure. It is UNACCEPTABLE.

1 – Norfolk Southern has been allowed to dictate and control the situation from day one. The government has allowed the criminal to clean up the crime scene and continues to do so despite the fact that multiple times there have been obvious problems with how they have done it.

2 – The response by the federal government, particularly the department of transportation has been abysmal. Since East Palestine, multiple other Norfolk Southern trains have derailed, fortunately with no chemicals, but why is this company even allowed to be running trains at this point?

3 – The EPA continuously telling people the air and water is clean, they are finding “no detectable harmful effects” is just obtuse. It is so blatantly obvious that that is simply not true. I don’t think the EPA is intentionally lying to people, but I do think they have their heads so far up their own asses and their “test results” that they haven’t been clear headed enough to see what’s right in front of them. The result has been that they have absolutely put people in danger.

4 – The 1-2mile radius and the predictions for the plume were absolutely and criminally wrong. Even the initial pictures of the controlled burn that circulated the news showed a plume of thick black toxic smoke spreading at least 6 miles. And the speed of 1 mile per hour was dead wrong, if it hit us 7 miles away at 5:30.

5 – The DEP sent two investigators out to our farm to follow up on our calls. That’s great, but it was 4 weeks after the fact. They should have been here that week. And the investigators knew very little about any of it.

6 – Gov DeWine’s office has failed miserably at controlling this situation, holding Norfolk Southern accountable, protecting the citizens of East Palestine, and coordinating with our PA officials to help them keep us safe.

I have never distrusted the EPA more in my life than I do now. These trains have been running through this part of the country for over 100 years. There are chemical disasters all the time in this country. Yet, the way the EPA handled this was as if they had never even considered what a game plan should be for a situation like this. On DAY ONE they should have

- contracted their own independent labs (not Norfolk Southern contractors) to conduct thorough testing for every chemical and bi-product including Dioxins and Furans and PFAS

- Demanded a manifest of what was on the train – which Norfolk Southern should have been able to provide and make public within 48 hours. Instead, it took over a week for a partial manifest to be released to the public. I’m doubtful at this point the full contents of that train have ever been disclosed. There remains many questions around what oils and what, if any PFAS were in the cars.

- Had blood and urine testing centers sent up around the region for people to begin testing for exposures

- Sent veterinarians to farms in the region to test animals

- And there should be a \$1Billion bond held permanently in escrow, put up by companies like this, for situations like this so that the people in east Palestine and surrounding areas were taken care of.

- An investigation of potential criminality or negligence should have immediately been initiated with Norfolk Southern.

- The EPA and DEP should have been honest with people about the potential dangers, unknowns, and their guidance should have erred more on the cautious side instead of telling people everything was fine and they could go home now.

- The department of transportation should have immediately halted all Norfolk Southern trains until thorough safety inspections were complete.

According to President Biden the EPA was on scene the very night of the derailment. But if that was true, why wasn't more urgent and emergency guidance provided to our communities? How is it possible that the same organization that wants to outlaw gas stoves and diesel trucks looked at over a million lbs of highly volatile and hazardous chemicals burning and thought "lets see how this plays out". How is it that a department responsible for protecting our environment could maintain, not for hours or days, but for weeks, that the air and water was fine in the face of such an obvious environmental disaster? And for weeks they maintained that they would not test for Dixons due to a lack of a "baseline" but then because of mounting pressure from the public decided to force Norfolk to test for dioxins, once again allowing the criminal to generate the data.

In my view The EPA and DEP in PA and Ohio, Governor Dwyne, Buttigieg, as well as the executive leadership of Norfolk Southern are guilty of criminal negligence and the endangerment of people in these communities as well as long term environmental degradation.

This whole situation has been gross. The epitome of corporate greed being encouraged and fostered by the government and having the interest of big business placed in front of the interest of regular people. The EPA has felt from day one that they were advocating more for Norfolk Southern than people potentially exposed to hazard. The response since then has been abysmal by just about everyone in a position to help. And lastly it's been another example, in a 100+ year history, of small rural towns and communities being left holding the bag while the CEOs, Shareholders say "sorry", performatively toss a few bones, and then slink back to their lives as disconnected out of touch millionaires and the politicians use the community like a prop for their partisan stump speeches. Meanwhile, the people of East Palestine and surrounding region have had their lives destroyed. Home values tanked, businesses ruined, human and ecological health in jeopardy, and once the news cycle has tired of it they will be forgotten, like they were before this happened.

One last note – my Father-in-law bought our farm in the mid 80's. He was the only truly organic farmer in the area. At that time there was no market here for organics but he farmed that way because he knew it was the right way to treat the land. We haven't sprayed a chemical or used a fertilizer on this property since then. For over almost 40 years this land has been protected by him and now by us, from contamination. We have protected this land as a farm but also as a habitat and ecological sanctuary from logging, mining, and the agro-chemical industrial complex. And now, because of the irresponsible and greedy behavior of a multi billion dollar company... our farm was covered by a toxic plume of who knows what. Its tragic for us. Its disheartening and defeating and infuriating.

Eric and Inda Akenhead
3/8/2023

Testimony Regarding Impacts of East Palestine Train Derailment

Our family has had businesses in East Palestine since the 1920s. For generations, we have been proud to support our community. Over the last 20 years, my wife and I have planned, saved, and prayed to create a stable financial future for our family. These plans would create a stable and secure future for not only my wife and I but for generations to come. This plan required personal sacrifice, pain and at times tears. But most of all, it required responsible behavior and decisions. Now, this future seems impossible. Not because of my failures, but because of the failure of the system and conscious decisions made by big business. This situation does NOT need to be like so many before it. Too many times, responsible individuals are left to pay the price for others. Let's make this one different.

Chair Carper, Ranking Member Moore Capito and members of the U.S. Senate Committee on Environment and Public Works:

Thank you for the opportunity to submit testimony on the environmental and public health threats from the Norfolk Southern train derailment and chemical release. My name is Hilary Flint and I am a resident of Enon Valley, Pennsylvania - the tiny town with less than 300 people that borders East Palestine, Ohio.

My great grandparents purchased this land and I am now the fourth generation in my family to call Enon Valley home. My grandparents, Louise Svihra (Benetti) and Robert Svihra, worked hard to achieve the American dream - they started a family, owned a home and land, opened many successful small businesses and became pillars of the community. My father, Jarett Svihra, has continued their legacy by growing those companies and purchasing land to develop throughout Western Pennsylvania. Yet I fear that there will be no legacy left for me, or my siblings, to continue.

Since the "controlled" explosion, we have been told that it is safe to be in our home. To drink our water. To plant in our soil. Yet my lived experience tells a different story. You see, I have a history of autoimmune disease, chronic illness and kidney cancer. This means that I am often more affected by my environment. Stories like mine have been ignored, unheard and undermined throughout this crisis.

You tell me that my water is safe. Yet when I wash my hands, I get red rashes. When I shower, my toes turn purple. When I wash my face, my eyes are itchy. You tell me that my air is safe. Yet I have migraines. I'm congested. I'm tired, dizzy and weak. You tell me that all tests show that I am safe. Yet the smell in my home is so pungent that it travels with me wherever I go - clinging to my skin, my hair and my clothes.

You tell me that since my home is more than 1 mile away, I do not qualify for resources. You tell me that if I want independent testing done on my property, that I will have to pay that expense. You tell me that if I want to get rid of the smell, that I must clean every surface - inside and out, wash every item of clothing and change every filter in my home. You tell me that if I have medical concerns, that I must go to a clinic that is unable to do tests, give a diagnosis or even write a prescription. You tell me that because Norfolk Southern continued to put corporate greed before public safety, that I am responsible for their actions.

Let me tell YOU something.

We, the people, have had enough. Appalachian communities are tired of being physically, mentally and financially burdened for the benefit of everyone but its residents. This blue collar area will no longer be ignored, silenced or dismissed.

We, the people, expect real change. Suspend all Norfolk Southern operations. Demand their leadership team be fired and held criminally liable for their actions. Make them compensate each and every family within a 30 mile radius of the derailment so that residents can do whatever they need to do to feel safe.

We, the people, are watching. My grandmother. My father. My siblings. Myself. The people that have lived in these communities for generations, the people that fought hard to achieve the American dream, the people that have defended this country with their vote, their word and sometimes their life. We are all waiting to see what you do to end this American nightmare.

Sincerely,

Hilary Flint of Enon Valley, Pennsylvania

Testimony for the hearing of the U.S. Senate Committee on Environment and Public Works on the environmental and public health threats from the Norfolk Southern train derailment in East Palestine, Ohio.

The plastic reality has become far more gruesome. Tragic beyond measure is the only way to describe what I have witnessed in the aftermath of Norfolk Southern's train disaster.

In East Palestine, Leslie Run is such a lovely meandering creek, until you stir it up a bit. The toxic sheen surfaces with little disturbance. The odor is still present as well, and it was unlike anything I have smelled before. We experienced health impacts while collecting water samples from Leslie Run including headache, sore and tight throat, chest pains, and light-headedness. This occurred on March 1, 2023, a month after the controlled burn and chemical release.

Leslie Run is directly behind a home of a family with two young children and a pregnant mother. They are worried about the long-term impacts to their health, air, soil and water. I visited many families who are all living in a nightmare. This is due to warranted fears that their home is not safe to live in because the plume from the EPA approved controlled burn hovered over their properties and rained particles down on them. Even amidst such tragedy, their warmth, love and gratitude were shining brightly and inspirational. The people of East Palestine and surrounding communities deserve immediate justice.

Below is an email sent to Debra Shore, Region 5 EPA Director on March 3, 2023:

Greetings Debra,

I appreciated our conversation and I thank you for connecting me with your kind and helpful staff members.

While assisting with water and soil sampling in East Palestine, we found contamination still visibly present in Leslie Run, with the odors still present, and we experienced health impacts including headache, sore and tight throat and difficulty breathing. The stream runs directly behind a home of a family with two young children and a pregnant mother. The family told us that when the EPA came to do water sampling from their well that they did not use the same protocol that we had. They sampled the water from the outside faucet, not inside where you can access the water before it goes through the water filtration treatment system. You are also supposed to run the well water for ten minutes before taking samples. They did not do that either.

I have interacted with many families who are still having health issues and smelling odors. They all have posed the question, " How can the EPA justify their claim that it is safe to live here when we are still sick?"

Impacted residents outside the evacuation zone are frustrated that the EPA and Norfolk Southern will not test their water and soil. They know they were exposed to toxins because they witnessed the plume creeping towards them and then saw the ash and crystals falling on their properties. They smelled the noxious odor and had instant headaches and other symptoms, and they are still dealing with health impacts a month later.

There is so much more to say. Although, it might be simply enough to request that you listen, see, and take action from the heart. Provide the support the people need!

Make Norfolk Southern give an immediate settlement for relocation to those families who want to leave. Medical bills should be covered by Norfolk Southern. Have Norfolk Southern cover the costs for people to have independent testing for their air, water and soil. There should be no strings attached; the money must be given freely and in abundance.

Please do not rely on Norfolk Southern to do dioxin testing. Conduct your own testing, as the community has good reason not to trust anything reported by Norfolk Southern.

Thanks for your leadership in service of the people.

Peace,

Jill Hunkler
Resident of Belmont County, Ohio

I heard about the train derailment on Sat feb 4th on the news. We talked about a possible evacuation that day amongst ourselves. We checked the wind and saw it was going to the south east which was favorable for us at the farm. On Sunday the 5th the wind was shifting a little more east but still ok for us. On Monday the 6th the wind was still blowing a little south of us. At 4 o'clock my daughter called me to tell me Norfolk Southern was going to explode the train cars. At approximately 5 or 5:30 pm I was pruning my xmas trees and I heard one big explosion and then another small one seconds apart. I guessed that was the cars being blown up. At around 6 or 6:30 I noticed black clouds a bit different looking than other storm clouds and went inside. At 7pm or so my son-in-law called me to ask if I could smell anything, I went outside and said yes I can. We started to develop a plan as to what to do. He called organizations and so did I. I first called an emergency number in New Castle Pa and they connected me to either the DEP or EPA In Harrisburg Pa. When I spoke with them, the lady I talked to did not know what I was talking about at that time. She then connected me to EPA in Grove City PA I believe and I was told they were being instructed to tell people to shelter in place and was surprised that we heard and smelled anything.

We made the decision to stay at the farm inside instead of bringing the kids, age 7 and 1 out in that air. As the night wore on we got word from other friends in Enon Valley Pa. that their throats and eyes were burning and they were leaving to a safer place. Our eyes and throat never burned but 2 days after the explosion we all came down with respiratory issues. Still have them to this day of March 6th.

I attended two town hall meetings, one when NS bailed out and the other with the Erin Brockovich crew.

As far as what I expected to happen when one of our towns are blown up was shocking as to the lack of response to the people of this country. I thought we had an emergency response team that would show up hours later after hearing about a train derailment and fire.

Nothing of the sort happened. We should have had an alert on our phones of the pending controlled burn or had an alert on the emergency alert system each state has to warn its people of a coming disaster, be it tornado, wildfire, attack, flood, mud slide or bombing of a village. Nothing. Days later nothing. Just a cover up.

On March 1st I believe the EPA came to our farm to ask questions for an internal investigation for their organization. They said my call on the 6th of Feb. was the reason they came. They had no answers for us.

What I expected to happen after the derailment was far from what did happen. I expected to get answers and an emergency response like the Calvary coming to save its people from pending doom. I expected a military field hospital, with doctors, nurses, hazmat personnel and govt officials, to be set up to serve the wounded and help heal the community the day of the wreck. Then for the EPA, DEP and FEMA to converge on the village and clean and test and evacuate the wounded and healthy persons from the area. That is what a government does for its people in need.

Instead what we have here today is still a third world country response. Deny, cover up, blame the villagers for who they voted for, Shy away from the media, tells us it's ok to go back, and best of all no visit or a too late visit from the leader of our country or his henchmen.

I expected much more but got much less. What a joke when the railroad corporation calls the shots as to how to police the site in order to keep out the press and the towns police in order to get the trains running again. Our government is just a front for the corporations these days and this proves it.

In conclusion we need Norfolk Southern to set aside 1 billion in an escrow account to cover the future costs to the townspeople. If at a later date that amount turns out to be too much paid out to the people, let Norfolk Southern fight for years to get that money back, not the wounded.

Joe Kozlina

New Galilee, PA

United States Senate
WASHINGTON, DC 20510

February 18, 2023

Ms. Anne Vogel
Director
Ohio Environmental Protection Agency
PO Box 1049
Columbus, OH 43216

The Honorable Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Director Vogel and Administrator Michael Regan:

We write regarding the February 3, 2023 Norfolk Southern train derailment near the Ohio-Pennsylvania border in East Palestine, Ohio and to inquire about the scope of monitoring in East Palestine and the surrounding communities. Specifically, we request additional information regarding the Ohio Environmental Protection Agency (OEPA)'s and the U.S. Environmental Protection Agency (EPA)'s plans to monitor East Palestine and the surrounding area for dioxins.

We appreciate the swift responses both of your agencies have executed in response to this crisis, and for the assistance to local authorities and residents. We also appreciate the extensive air monitoring U.S. EPA has undertaken related to vinyl chloride and several known by-products that are produced when vinyl chloride burns including phosgene and hydrogen chloride. However, following our visits to East Palestine this past week where we heard directly from members of the community, we remain concerned that it does not appear that the U.S. EPA, OEPA, or Norfolk Southern is testing for dioxins.

The combustion of vinyl chloride can lead to the formation of dioxins. Dioxins are a group of compounds that are persistent environmental pollutants known to bioaccumulate in animals and humans. According to the U.S. EPA, dioxins are highly toxic, can interfere with hormones, and can cause cancer, reproductive and developmental problems, or damage to the immune system.¹ We are concerned that the burning of large volumes of vinyl chloride may have resulted in the formation of dioxins that may have been dispersed throughout the East Palestine community and potentially a much larger area.

¹ <https://www.epa.gov/dioxin/learn-about-dioxin>

In response to this incident, we ask that you provide clarifying answers to the following questions by Friday, February 24th.

1. Has either the OEPA and/or U.S. EPA been monitoring the air for dioxins?
2. If not, please explain why the OEPA and/or U.S. EPA has not been monitoring for dioxins?
3. Is the OEPA or U.S. EPA aware of any other entity that may be monitoring for dioxins, including Norfolk Southern?
4. Are there additional resources or authorities that OEPA or U.S. EPA needs in order to undertake regular monitoring for dioxins in East Palestine and the surrounding community?
5. Does OEPA or U.S. EPA have a system set up for members of the community and other expert stakeholders to engage on the testing and monitoring regimen following the train derailment and subsequent activities in East Palestine to ensure a thorough, comprehensive response to monitor the area for potential pollutants? If not, will you commit to establishing appropriate protocol to ensure engagement?
6. If dioxins are detected in the region, what are OEPA's and U.S. EPA's respective protocols for communicating with the local community, addressing the potential contaminant(s), and protecting the local community from potential long-term exposure?

We urge OEPA and U.S. EPA to act immediately to coordinate and ensure regular testing and monitoring for dioxins remains a priority moving forward. This monitoring should not only be a part of a long-term strategy, it should be implemented immediately and communicated to the local community to ensure transparency.

If there's anything we can do to help ensure OEPA and U.S. EPA have the resources and support necessary to ensure thorough testing for dioxins, in addition to the other air, soil, and water sampling U.S. EPA is conducting, please do not hesitate to ask. We remain committed to supporting your work protecting the public health.

Thank you for your prompt attention to this critical matter.

Sincerely,



Sherrod Brown
United States Senator



JD Vance
United States Senator

U.S. Senate
Committee on the Environment and Public Works
Washington, D.C.
cc: Sen. Sherrod Brown, Sen. JD Vance

March 7, 2023

Dear Chmn. Carper, Ranking Member. Capito, and Honorable Committee Members:

These comments are in response to your hearing March 8, 2023 entitled "Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train Derailment and Chemical Release in East Palestine, Ohio". As a result of independent water analysis by Purdue University researchers, preliminary findings suggest unrecognized risks to public health that may be of interest to the committee.

In February 25-27 and March 3-4, 2023 our team visited the impacted area at the specific request of East Palestine residents to investigate ongoing public health and environmental impacts. We sampled drinking water from private drinking water wells and creeks from the area. We applied a broad approach to water analysis using gas chromatography-mass spectrometry (GC-MS) and high-resolution proton transfer reaction time-of-flight mass spectrometry (PTR-TOF-MS, operated by my Purdue faculty colleagues, Professors Nusrat Jung and Brandon E. Boor). The analytical protocols used were determined in the interest of a broad screen given the extensive nature of contaminants released and created in Ohio. This approach was applied to be protective of public health. As a result, our preliminary analysis revealed that acrolein, butyl acrylate, 1,3-butadiene, ethylene glycol, naphthalene, butyl acrylate, *n*-butyl ether, 2-butoxyethanol, and 2-ethyl hexanol were present in contaminated Sulfur Run and Lesley Run waterways. It is reasonable to expect these compounds to be present because of the Norfolk Southern manifest published by the U.S. EPA and what was reported to be released due to the fires. These compounds can present an acute public health risk when present at sufficient amounts. For example, acrolein is a breakdown product of chlorinated compounds and was detected in air separately by US EPA and Texas A&M and Carnegie Mellon University researchers. We are in the process of finalizing sample analysis and confirming concentrations¹.

The government agency testing we reviewed is not representative of what is likely to be present in potentially contaminated water. It is unclear how entities involved determined which compounds should and should not be analyzed. Separately, ORSANCO appears to be analyzing for two of these compounds in Little Beaver Creek and the Ohio River.

Action. *Test for the chemicals we identified. Further, officials should notify the communities in and around East Palestine that their analysis to date has not been sufficiently representative of possible exposure risks. Some of these compounds could be present in deposited particulate matter observed in homes and properties. It is unclear why responders have not conducted indoor surface analysis to mitigate acute exposures and provide necessary guidance on safe cleaning.*

On March 2, I sent a letter to Director Douglas Parker asking OSHA to protect workers in and around East Palestine, Ohio. During my onsite investigation February 25-27, I observed that the creeks (Sulfur Run and Lesley Run) were heavily contaminated with chemicals, something that was not widely shared with the public prior to our visit. We observed workers being exposed to chemicals, without respirators, wading through the creeks, standing in and beside the creeks, sometimes not wearing safety gloves, standing by makeshift aeration units and apparently being exposed to the emitted chemicals, and lost footing and slid

¹ Using the GC-MS, we detected four compounds thus far with NIST library matches: *n*-butyl ether (88% match), 2-butoxyethanol (95% match), butyl acrylate (94% match), 2-ethylhexyl acrylate (97% match). Identification of acrolein, butyl acrylate, 1,3-butadiene, ethylene glycol, and naphthalene via PTR-TOF-MS was based on detection of their exact masses (mass resolution > 6000 m/Δm). Compound identification will be confirmed following analysis of calibration standards.

off the creek bank and into Sulfur Run (he remained upright). In particular, the actions taken by the workers are volatilizing chemicals into air are causing exposures that do not appear to be guarded against by existing worker safety measures. I also asked some workers about PPE, and they said they were not told what chemicals they were being exposed to. I also observed children, adults, and pets were near the creeks, not warned about the health hazard they posed.

Action. *Institute access controls using contractor fencing to prevent unauthorized entry into the contaminated waterways. Install fencing and warning signs extending all the way down to Bull Creek, where contamination was visible on March 4 during a rain event. Conduct worker and air monitoring where creek aeration is being carried-out, including but not limited to Sulfur Run and Lesley Run, and soil cleanup operations.*

We will be releasing the findings of our analyses in the coming weeks. Please do not hesitate to contact me if you have any questions. We remain able to help agencies who want to make certain their approach is grounded to evidence so that the people impacted can be protected from harm and obtain answers. I can be reached at awhelton@purdue.edu.

I am providing information in an individual capacity, expressing my own views; and are not representing the views of Purdue University, a College or a Department.

Sincerely,



Andrew Whelton, Ph.D.

United States Senate
WASHINGTON, DC 20510

February 15, 2023

Administrator Michael S. Regan
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Administrator Michael S. Regan:

We write regarding the February 3, 2023, Norfolk Southern train derailment near the Ohio-Pennsylvania border in East Palestine, Ohio. We want to express our appreciation for the U.S. Environmental Protection Agency's (EPA) swift response and for the assistance the agency provided to state and local authorities, including the Ohio Environmental Protection Agency (OEPA), the Pennsylvania Department of Environmental Protection (PA DEP), fire fighters, and local police. We would also like to commend the speed in which the EPA and state agencies were able to set up community air and water quality monitoring in the surrounding area, as it provided critical data that helped ensure public health and safety in the immediate aftermath of the incident.

While we are grateful no injuries or fatalities resulted directly from the derailment, we are concerned about the release of hazardous materials into the air and groundwater across the region surrounding the derailment. Hundreds of families were forced to flee their homes and are now rightfully concerned about long-term health risks associated with exposure to the toxic chemicals released. No American family should be forced to face the horror of fleeing their homes because hazardous materials have spilled or caught fire in their community. We ask that EPA uses its existing authorities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) to ensure that Norfolk Southern pays for the clean-up of these hazardous materials, as well as compensates residents and affected businesses as required. Additionally, we ask that EPA continue monitoring the land, air, and water in East Palestine, Darlington Township, and impacted communities until the long-term effects of the exposure are fully understood.

The Norfolk Southern train had 53 cars that derailed with at least 10 carrying hazardous material, including Vinyl Chloride, Ethylene Glycol Monobutyl Ether, 2-Ethyl Hexyl Acrylate, Isobutylene, and Butyl Acrylates. According to the EPA, acute exposure to high levels of vinyl chloride in the air can impact the central nervous system causing dizziness, drowsiness, and headaches. Chronic exposure to this chemical can cause liver damage, central nervous system effects and even a rare form of liver cancer¹.

The community is also concerned about the possible exposure to additional hazardous gases that may have been released when first responders were forced to vent and combust the railcars containing vinyl chloride to prevent a catastrophic explosion. Norfolk Southern has a

¹ <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/vinyl-chloride.pdf>

responsibility to these first responders and the workers that put their lives on the line to keep the community safe by fighting fires, going door to door to evacuate residents, and working on getting the derailed train, hazardous material, and contaminated water and soil removed from the immediate area.

We appreciate the extensive air and water monitoring operations that have begun, but the impacted communities need further monitoring and assurance of safety of their homes, their water, and their soil. Our offices are aware of reports of lingering odors and animal deaths. Additionally, there are reports that chemicals from the derailment have been found in the Sulphur Run stream and other downstream waterways. Given the rural nature of this community, many residents rely on private drinking water wells that are not connected to a public water supply system, and therefore may need additional testing from EPA to ensure the safety of their drinking water sources. We are deeply concerned for the safety of the community in the impacted area.

In response to this incident, we ask that you provide clarifying answers to the following questions by Friday, February 24th.

1. Can you commit to us that EPA will use all available existing authorities to hold Norfolk Southern accountable for all remediation activities in the short- and long-term that will be necessary to restore the environment and protect public health of the surrounding region?
 - a. Please provide a detailed explanation of the existing authorities the agency has to respond to environmental disasters, and what actions can be taken under those authorities.
 - b. Please provide information on any long-term environmental impacts the agency has reason to believe may occur due to the train derailment and resulting release of several hazardous substances.
2. Please provide information on the air and water monitoring plans advanced by the state agencies and Norfolk Southern contractors in coordination with EPA's monitoring, and explain whether those plans are satisfactory under the agency's requirements?
3. Does EPA have the resources needed for its operations in East Palestine and the surrounding area and the resources necessary to provide continued assistances to OEPA and PA DEP?
4. Does the EPA have full access to monitoring data that OEPA, PA DEP, and Norfolk Southern are gathering, and does EPA have full confidence there is a coordinated plan to recognize and mitigate any issues identified through monitoring?
5. How long does the agency expect remediation of the immediate accident site to take and how long will monitoring occur to ensure that no contaminants are migrating off site?
6. Are there any additional actions that Norfolk Southern could take to mitigate the environmental harm and protect public health?

7. What is the short and long-term plan to monitor the first responders and workers that tirelessly worked night and day to protect the community?

The work of the EPA in this matter is tremendously important. Thank you for your attention to concerns of East Palestine, Darlington Township, and the surrounding communities. Please keep our offices informed as you continue to monitor and provide assistance to the region.

Sincerely,



Sherrod Brown
United States Senator



JD Vance
United States Senator



Robert P. Casey, Jr.
United States Senator



John Fetterman
United States Senator

**Observations of Continual Impacts to Wildlife in Leslie Run and Adjacent Waterways
Following the Norfolk Southern Train Derailment in East Palestine, Ohio**

Prepared by:
Logan Rance
M.S. Environmental Science

Lrance75@gmail.com

March 3, 2023

Overview

On February 3rd, 2023, a freight train operated by Norfolk Southern derailed in the town of East Palestine, Ohio. A variety of hazardous chemicals were released from the train into the surrounding air, water, and soil as a result of the derailment. On February 6th, additional hazardous compounds were released into the environment as a result of the burning of vinyl chloride from five unstable railcars.

Chemicals spilled during the derailment and subsequent release of vinyl chloride contaminated local waterways including Leslie Run, Sulfur Run, and North Fork Little Beavercreek. On February 23, 2023, the Ohio Department of Natural Resources (ODNR) released a statement on the derailment's impacts to local wildlife. This statement is accessible [here](#). In this update, ODNR claimed the following:

- The entirety of the impacts to aquatic wildlife occurred in the first 24-hours after the derailment.
- Species were killed over a five-mile span.
- The area of the impact runs from the derailment site to the confluence of Leslie Run and Bull Creek in Negley, Ohio.
- Because chemicals have been contained, ODNR has not observed signs of suffering of additional aquatic life.

The purpose of this report is to challenge the above claims and provide photographic evidence that wildlife were (and may continue to be) harmed for weeks after the derailment. The following sections include photos and testimonies provided by volunteers who have been documenting the derailment's impacts. These volunteers have backgrounds in ecology and environmental science.

Inventory of relevant statements made by ODNR concerning impacted waterways

The following statements are taken directly from ODNR's February 23rd update.

"Although dead aquatic species still remain in the impacted waterways, the entirety of the impact to the aquatic life is believed to have occurred in the first 24-hours after the derailment. There is no immediate threat to minnows, fish, or other aquatic species – in fact, live fish have returned to Leslie Run."

"And, it's important to stress that these small fish are all believed to have been killed immediately after the derailment. Because the chemicals were contained, ODNR has not seen any additional signs of aquatic life suffering in the streams."

"The investigation has thus far concluded that of the 7-and-a-half-mile impacted area, the species were killed over a 5-mile span. This area of impact runs from the train derailment site

near Sulphur Run to where Bull Creek flows into the North Fork of Little Beaver Creek.”

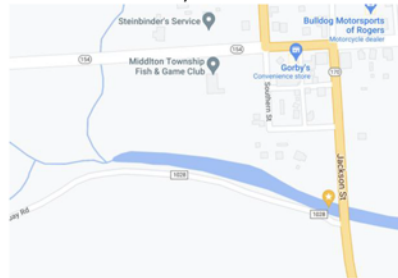
“Based on this sample count, ODNR used a calculation endorsed by the American Fisheries Society to estimate the total number of minnows killed in the entire 5-mile span of waterway from the derailment site to the point where Bull Creek flows into the north fork of Little Beaver Creek.”

Examples of wildlife killed later than 24 hours after the initial derailment

[In a study](#) published in the North American Journal of Fisheries Management, researchers from the California Department of Fish and Wildlife and NOAA described recently deceased fish as specimen that had clear eyes, and lacked visible fungus on their bodies, and did not show signs of advanced decay. In the weeks following the derailment, volunteers used these parameters to identify recently deceased animals, as well as animals that appeared to be actively dying. The following includes examples of wildlife that have died later than 24 hours after the derailment (as well as older dead wildlife for reference), contrary to what was stated by ODNR.

Animals documented on February 19th, 2023

- **Location: Leslie Run/Bull Creek**



- **Older dead wildlife (for reference):** The following were collected on 2/19/23. These animals provide examples of wildlife that likely died closer to the derailment, given the presence of fungus, cloudy eyes, and advanced decay.

i.



ii.



- **Recently dead wildlife:** The following were collected in the same body of water on the same date as the animals above. These animals did not die at the same time; their clear eyes, lack of fungus, and lack of advanced decay (and in some cases, fresh blood) suggest they died closer to the time these photos were taken.

i.



ii.



iii.



iv.



v.

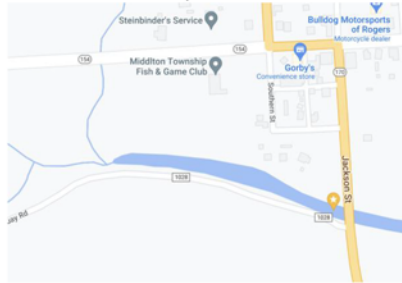


vi.



Animals documented on February 25th, 2023

- **Location: Leslie Run/Bull Creek**



- **Older dead wildlife (for reference):** The specimen below was collected on 2/25/23. This animal appears to have died closer to the derailment due to signs of advanced decay and fungus.

i.



- **Recently dead wildlife:** The following were collected in the same body of water on the same date as the animals above. These animals did not die at the same time; their clear eyes, lack of fungus, and lack of advanced decay suggest they died closer to when these photos were taken.

i.



ii.



This crayfish was still alive but actively dying. It did not have the strength to move in the water.

iii.



iv.



Suffering in impacted waterways

ODNR said in their Feb. 23rd statement that they did not observe additional suffering in the waterways since the 24-hour period following the derailment. It is difficult if not impossible to observe and document every single dead aquatic animal in an impacted stream spanning upwards of five miles. Despite their best efforts, ODNR indeed may not have observed additional signs of suffering. However, observations made by residents show that suffering has persisted well beyond the initial derailment.

- On February 8th, I observed multiple amphibians that were actively dying on the banks of Leslie Run. Some of these animals attempted to climb out of the water, only to roll back into the water when they did not have the strength to climb further. It was apparent that their deaths due to exposure to toxic chemicals was not a quick process.
- On February 19th, another group of observers documented recently dead amphibians that still had fresh blood coming from their mouths and external nares. Some of these animals appeared to have vomited up their own stomachs. Amphibians sometimes perform this type of gastric eversion after consuming toxic or inedible material, suggesting that these animals could have died from direct chemical exposure or after consuming contaminated material.



- On February 25th, I observed and photographed multiple northern two-lined salamanders that appeared to have died in the weeks following the derailment. Some of these animals had what appeared to be blisters/burns on their skin. These animals would have undoubtedly experienced pain and distress as a result of these chemical burns prior to their deaths.

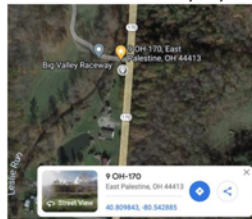


Documentation of non-contained chemical contamination

Despite efforts by Ohio EPA to contain spilled chemicals using constructed dams and water treatment, observers have documented what appears to be the movement of compounds released from railcars through waterways. It appears that these compounds are dense and may have settled into the sediment. Observers have witnessed smaller quantities of these compounds appearing at the surface of the water on their own, as well as larger quantities being released when the sediment is disturbed (even gently).

These compounds may be argued to be “contained” in sediment; however, if they are capable of being released into the water column by a small amount of disturbance that could occur naturally by wildlife, weather events, or any number of causes, they are not truly contained and pose a continual threat to life downstream.

- Date documented: 2/16/2023



Add a Caption

Thursday • Feb 16, 2023 • 7:31 PM

[Adjust](#)

C0154

Compounds appearing at the surface of the water with no disturbance to the stream bed.

- Date documented: 2/17/2023

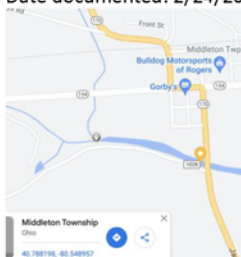


February 17



Compounds appearing at the surface of the water after a small rock is thrown into the water.

- Date documented: 2/24/2023





Add a Caption

Friday • Feb 24, 2023 • 5:05 PM

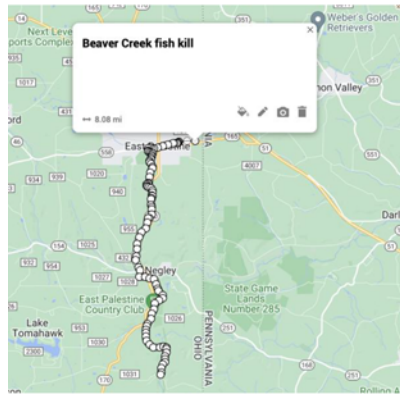
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📷 IMG_7701

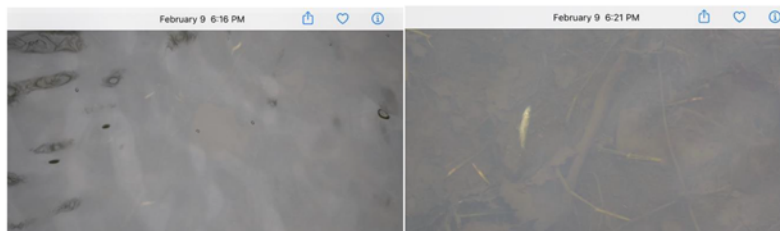
Compounds released after stepping into the stream.

Observations of dead wildlife outside the 5-mile span of impacted waterway

In their February 23rd statement, ODNR estimated that there have not been impacts to wildlife beyond a 5-mile span that ends at the confluence of Bull Creek and North Fork Little Beaver Creek. On February 9th and 10th, I observed dead wildlife in North Fork Little Beaver Creek at a location approximately 8 river miles from the derailment (see photo below).



Observations were made from the Pancake-Clarkson Road bridge that spans North Fork Little Beaver Creek. Approximately one dozen large minnows were observed (not all were photographed).





These photos imply that wildlife were impacted outside the original 5-mile estimated impact zone.

Conclusion

ODNR has the duty to provide the public with an accurate depiction of events following the derailment as they relate to impacted natural resources. The goal of this document is to paint a clearer picture of the derailment's impacts to surface waters and local wildlife. Providing an accurate depiction of the environmental conditions following the derailment, the effects of these conditions, and the timeline that they occurred is extremely important for holding Norfolk Southern responsible for their actions. To say that there is no longer a threat to wildlife, that all deaths occurred 24 hours after the derailment, and that no suffering has been observed in the waterways minimizes this situation and could result in the erosion of public trust. Regardless of what the community is being told, they can clearly see these impacts with their own eyes.

This report is not meant to be an attack on ODNR. Identifying and quantifying the impacted species is important and tedious work, and the community is appreciative of the individuals doing this work. Rather, it's intended to point out inconsistencies in what ODNR is telling the public and what we are observing, in the hopes that ODNR can provide a more realistic update that accurately depicts the conditions of the impacted waterways. If we accept a version of events that does not reflect reality, we set the stage for Norfolk Southern to be held to a lower standard of accountability. ODNR plays an important role in protecting our environment and restoring damage that has been done to the natural world as a result of this incident. We encourage you to seriously consider the evidence presented here, showing that a) wildlife have been impacted weeks after the derailment and b) spilled compounds have not been contained, and provide the public with an accurate update of the state of our waterways.

Glossary of time-stamped images

Because some photos were exchanged electronically between observers, some images in this document may not have time stamps that reflect when the photos were taken. Additional photo data/official time stamps can be provided upon request.



Add a Caption

Saturday • Feb 25, 2023 • 5:20 PM

IMG_7799

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Add a Caption

Saturday • Feb 25, 2023 • 5:27 PM

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Saturday • Feb 25, 2023 • 4:45 PM

IMG_7779

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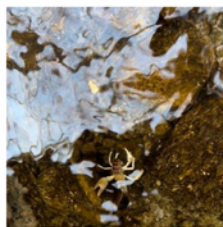


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Saturday • Feb 25, 2023 • 5:51 PM

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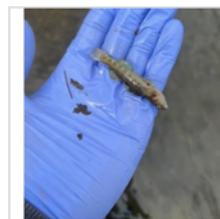


Add a Caption

Saturday • Feb 25, 2023 • 4:57 PM

IMG_7788

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Associated Observations

Greenbacked Darter (Desmognathus)

Observer: [Imagophoson](#)

Date: February 19, 2023 11:09 AM

Site: 632

Place: [Quay Rd, Hagley, OH, US](#)

4 IDs: [Greenbacked Darter](#) [View all](#)

Size:

- small
- medium
- large
- original



East Palestine Fire Department

P.O. Box 231* East Palestine* Ohio 44413

Keith Drabick
Fire Chief

Cell: (440) 915-2838
Fax: (330) 426-1200

Rebecca,

Below you will find my answers to the two questions you asked for clarification on for the upcoming hearing next week. I feel that it is inappropriate to answer these questions by phone, as you indicated you would prefer, in order to ensure my answers, stay as they are written instead of how you interpret them.

1. Confusion on the decision for the controlled vent and burn operation.

At approximately 10:00 on February 6, 2023 a meeting was held in the computer lab of the East Palestine Elementary School, the command center, with all members of the unified command along with Governor Dewine and several officials from Pennsylvania. The vent and burn process was discussed in length and at times a heated discussion. Plume models were also discussed in length along with correct data in reference to those correcting the original model. The correct plume model was discussed after corrections for new data was given to all entities working on the models. Once again, the vent and burn operation was discussed in depth with all members along with the updated plume model. It was explained that the vinyl chloride cars with the malfunctioning safety devices were believed to be going through polymerization leading to a greater possibility of a catastrophic failure, or BLEVE, of the container. All parties agreed to the process due to the concerns of a potential catastrophic failure, or BLEVE, of the vinyl chloride cars in question. All members of the unified command, stakeholders present, and political entities had an opportunity to ask questions and express concerns. All parties involved agreed that the vent and burn was the correct and safest option available with the scientific data provided. Approval was granted by Unified Command for the vent and burn operation to commence at 16:00 hours. There was a delay to the operation due to reported wiring issues at the sight and also reports of people found to be within the danger zone. Once the area was deemed safe by the contractors on sight the vent and burn process commenced at approximately 16:40. It was reported that soot was seen coming from the rail cars involved in the vent and burn which is reported to be a way to confirm in fact that the cars were going through the polymerization process as suspected by the subject matter experts.

2. Confusion of number of cars to be involved in the vent and burn.

Initially it was conveyed that one of the five cars would be involved in the vent and burn process when it was first discussed. It was determined by contractors that all five cars would need to be involved in the process for safety reason. This change was discussed in depth, at the meeting conducted in the computer lab as mentioned in the previous answered question, to determine if this process would take place. The reason and process for the change was explained in depth to all parties involved. It was

DO YOUR JOB*TREAT PEOPLE RIGHT*GIVE ALL OUT EFFORT*HAVE ALL IN ATTITUDE

375

East Palestine Fire Department

P.O. Box 231* East Palestine* Ohio 44413

Keith Drabick
Fire Chief

Cell: (440) 915-2838
Fax: (330) 426-1200

expressed to all parties that all five cars needed to be involved in the process for safety reasons.

In respect to your final statement the only question I have is why other entities such as the County Sheriff and citizens are being requested to attend the hearing and present to the committee and the Incident Commander is reserved to be questioned preferably by phone as to written correspondence or appearing in front of the committee.

Respectfully,



Keith A. Drabick Fire Chief

DO YOUR JOB*TREAT PEOPLE RIGHT*GIVE ALL OUT EFFORT*HAVE ALL IN ATTITUDE

JOHN FETTERMAN
PENNSYLVANIA

United States Senate
WASHINGTON, DC 20510
<https://www.fetterman.senate.gov>

COMMITTEES:
AGRICULTURE, NUTRITION, AND FORESTRY
BANKING, HOUSING, AND URBAN AFFAIRS
ENVIRONMENT AND PUBLIC WORKS
SPECIAL COMMITTEE ON AGING

Environment and Public Works Committee – Protecting Public Health and the Environment in the Wake of the Norfolk Southern Train Derailment and Chemical Release in East Palestine, Ohio

March 9, 2023
Statement for the Record

After the Norfolk Southern train derailed a little over a mile from the Pennsylvania border, many Pennsylvania families were forced to rapidly evacuate from their homes. Some were living in the formal evacuation zone, and others saw the plume and moved quickly to try and keep their families safe. In the weeks since, many Pennsylvanians—primarily in Beaver and Lawrence counties—have reported nausea, headaches, rashes, and watering eyes, all symptoms that could be related to the potential chemical exposure.

In the aftermath, Pennsylvania farmers are worried about the soil they use to make a living and the food they grow. Residents are worried about the water in their wells, the meat they bring home from hunting, and the fish they catch. And above all, many are worried about the long-term impact of this disaster on their own health and the health of their children and loved ones.

We cannot sit by and allow executives at big companies like Norfolk Southern to operate as if the health and safety of communities like Darlington Township and East Palestine are expendable. We cannot allow these communities to continue to be forgotten and left behind.

The goal is safe freight rail transportation, which will only be possible if railroads act as good faith partners and put safety over profits. That's why I'm proud to be working with my colleagues to stand up for these communities and hold all the parties responsible for this tragedy accountable.

I'm working with my colleagues across both state and party lines to fight for the forgotten people of Pennsylvania and Ohio, hold Norfolk Southern responsible for the damage they've caused, and prevent similar disasters from happening in the future. I would specifically like to thank my colleagues from Ohio, Senator Sherrod Brown and Senator J.D. Vance, for being great partners with Senator Bob Casey and myself throughout this process.

Our work together in the wake of this disaster has been two-fold. First, we've done everything we can to support Pennsylvanians and Ohioans affected by the disaster in the short-term, namely advocating for resources and compelling Norfolk Southern to detail how they will make these communities whole.

We wrote to Norfolk Southern Corporation President and CEO Alan Shaw about the company's legal and moral obligation to the residents of East Palestine and Darlington Township, and demanded answers on how the company plans to be an active member of the response and clean-up operations. We have also engaged with the Environmental Protection Agency (EPA) on its plan to hold Norfolk Southern accountable for releasing hazardous materials into the air and water. We wrote to the National Transportation Safety Board (NTSB) to share rail safety concerns we have heard from constituents, rail experts, and railroad workers as the NTSB conducts its investigation into the derailment. And finally, I worked with Senator Casey and Congressman Chris Deluzio to urge Norfolk Southern to provide assistance to Pennsylvanians in Darlington Township after repeated reports that Pennsylvania residents were being turned away from the Family Assistance Center in East Palestine.

While working toward these important short-term solutions, we're also fighting to prevent similar disasters from happening in the future. To that end, Senator Casey and I worked with Senators Brown and Vance to introduce the bipartisan Railway Safety Act of 2023, which would take much needed steps to improve rail safety protocols and keep American families safe. I am grateful that my colleagues across the aisle have recognized the urgent need for commonsense updates to our rail safety framework. This legislation is a critical first step, but it cannot be the last.

I'd also like to thank the state agencies in Pennsylvania and the Biden administration for their work in the weeks following the derailment. These agencies have provided frequent and thorough updates that have been critical to the work we've done. EPA's announcement last week that they would test for dioxins was a welcome development and will provide important information for the people of Pennsylvania and Ohio.

The bottom line is that everyone deserves to be safe where they live. In the wake of this disaster, it's clear that there's a lot that we need to get done to make that a reality.

And at a time when so much is still uncertain, we need to make sure Pennsylvanians and Ohioans get answers to their questions.

My hope is that we answer this disaster caused by egregious negligence from Norfolk Southern with real policy solutions that will hold Norfolk Southern and similar companies accountable while making American families safer in the future. I believe that the legislation introduced last week is a great first step. I look forward to getting some answers today and continuing to work with my colleagues to get Pennsylvanians and Ohioans alike the resources they need.

I live in Beaver County, about 15 miles from the derailment site. I did not know about the derailment until February 4, when a neighbor told me a train accident happened the night before, just over the border with Ohio.

Since then, I have been very concerned with how Beaver County and Pennsylvania have reacted to this emergency. We were only alerted once by a public message at 3:15 pm on February 6 of the evacuation zone, not of the scheduled vent and burn that was said to be happening at 3:30 pm. No other messages were sent to us about this emergency, even when the release and black cloud happened.

Many people have already said that mistakes were made, and I want to know why we didn't hear more from our emergency services or officials? Why didn't we have more information about what was happening? Our township didn't notify us, we didn't hear from the county, we had to use social media or turn on the radio. I know we don't live right next to the site, but we should still be notified in an emergency like this. What will happen the next time we have an emergency? Are we left to figure out our own plans?

Many people who live here in Beaver County don't ask for much from our local government, and we are grateful for those responders who helped out. We just want answers and to feel safe in our homes, and to know that if a company or train or building is posing a harm to the people who live here, we are protected by the services responsible for emergencies. So many of my friends and neighbors are scared to speak up and say something, so thank you for letting me share this. Please ask the officials for answers.

FROM THE DESK OF CHRISTINE M ZIMMER

9784 Columbiana Canfield Rd
Canfield, OH 44406
P: 330.503.1127
E: zimmer007@iCloud.com

Testimonial Regarding East Palestine Train Derailment

On February 3, 2023 at approximately 9pm while sitting at home I heard multiple sirens and shortly after learned of the Norfolk Southern train derailment in East Palestine, Ohio. I currently reside in Canfield, Ohio approximately fifteen (15) miles from the site of the derailment.

The next afternoon on February 4, 2023 I began suffering from a sore throat and burning eyes which lasted about three (3) weeks. On February 5, 2023 I began to have shortness of breath along with a sore/scratchy throat with an accompanying headache. The evening of February 6, 2023 after the "controlled burn" at approximately 7pm the wind shifted from the SW and went toward my house. Inside my home smelled like chlorine, nail polish remover and a sweet smell simultaneously.

At this time, Mahoning County officials, while stating the air was safe, issued a voluntary "Shelter in Place Order." The air quality exacerbated my asthma while at home causing me to use a rescue inhaler approximately every six (6) hours; however, improved while at work in Hermitage, PA. There was no improvement in my asthma and I began having increased head congestion and ear pain which prompted me to visit my PCP on February 15, 2023. I was informed by my PCP that I had not needed an inhaler prescribed for over two (2) years and was diagnosed with acute sinusitis, double ear infection, chemical exposure and uncomplicated asthma. I was placed on antibiotics, Flonase and given a new inhaler.

On February 7, 2023 my dog also started showing signs of being ill. He was very lethargic and had diarrhea for 4 days following the "controlled burn."

On February 18, 2023 I was still feeling sick and my migraine headaches started along with nausea, vomiting and increased shortness of breath with cough and congestion. On February 21, 2023, February 24, 2023 and February 25, 2023 I returned to the doctor for increased difficulty breathing, needing two breathing treatments, and no improvement in other symptoms. In total, I was placed on nine (9) medications for my symptoms. To date, there has been some improvement with breathing; however, my sinuses are still congested and I am needing an appointment with an ENT which is scheduled for March 14, 2023.

There are currently no resources in place for residents of Canfield that have been affected by the train derailment although many have suffered from symptoms. Personally, I have incurred a significant amount of medical bills as well as continued complications with my asthma and sinuses. While I do not want to minimize the issues of the residents of East Palestine I feel that Norfolk Southern should be required to provide services and resources within at least a thirty (30) mile radius of the derailment site.

Daren Gamble
3/8/2023

Testimony Regarding Impacts of East Palestine Train Derailment

My name is Daren Gamble, I am a 60 year resident of East Palestine.

I still live in the house where I was born, being the 3rd generation at this residence. Since the derailment and our subsequent return, my wife of 40 years has had multiple health issues that are very concerning, the reason being, if we leave town for even a couple hours the symptoms subside or dissipate altogether, only to return upon arrival home.

My only wish would be for anyone in our town's position to TRULY step into our shoes. If it was your grandchildren (I have seven), your aging parents, your best friends, would you feel as everything humanly possible is being done? If you can wholeheartedly do this I believe there could only be one answer.

In closing I also believe the level of double talking and deceit concerning this issue is at the very least disgusting, boarding criminal!

Eric Coxxa
3/8/2023

Testimony Regarding Impacts of East Palestine Train Derailment

My name is eric cozza I live .3 miles away myself and my fiance have been sick we need answer on why we are getting sick.

Jami Cozza
3/8/2023

Testimony Regarding Impacts of East Palestine Train Derailment

My name is Jami Cozza. I have 47 immediate family members that live in Downtown East Palestine. All of which in the one mile zone or very close to it. We are not a community that was sick and are now getting better. We are a community that trusted being told it was safe to go back into our homes and felt fine but are now getting sick. I am watching my family members and my community being slowly poisoned by corporate greed. We don't want money, we want our health, the health of our kids, the health of our community. We don't have time to wait for help! We need help now! Not just EP but all of our surrounding communities that are also suffering from symptoms and contamination related to the derailment. I am begging you to see that we are humans, we are mothers, we are fathers, we are citizens of the United States of America and we need help right now

Russell Murphy
3/8/2023

Testimony Regarding Impacts of East Palestine Train Derailment

Good morning it's Russell Murphy 2.8 miles from derailment. just giving you a short impact statement on the effects of the train chemical dump mess. On the night of February 4th at 10 pm we got a return phone call from Curt Cooler from the EPA on questions we had on our well water. Curt answers were not reassuring as his last sentence was it's not a matter of if it's a matter of when our water will be contaminated. Since we are south/west of the crash and .4 away from Leslie run creek! My wife and I along with our daughter had symptoms started on Sunday the 5th and are still persistent. They are as follows.

Numb mouth.

Sore eye sockets.

Dry mouth.

Abdominal pain.

Severe headaches.

Sore throat.

Voice change.

Blurred vision.

Confusion.

Nausea.

Ear pain.

Sweet odd taste.

Skin stinging.

Fatigue.

Our pets had issues as well and they come and go they are.

Lethargic.

Throwing up.

Swelling of the face.

Runny nose.

Loss of appetite.

Had the Lisbon vet come out for one of the horses and the diagnosis after blood work was something environmental. Gee wonder what that was!

Norfolk southern has touched everything that we worked for and they have got to give us continuing medical care and buy us out so that we can get away from this toxic soup that THEY dumped on our land and water as well as our air.

Summer Magness
3/8/2023

Testimony Regarding Impacts of East Palestine Train Derailment

My name is Summer Magness. My home is 1.35 miles from the location of the East Palestine Train Derailment.

Our home is beautiful, large, scenic that sits upon the hill with woods to one side, a lake to the back, and again is our. I am a wife, and mother of two teenage daughters both who attend EP Village Schools.

We have had our lives upended by the epic disaster that has yet to be declared so. We were all home the night of the initial derailment February 3rd. We did as instructed and sheltered in place, while the catastrophe was not being addressed properly. Our roads were shutdown by the National Guard. Come Monday, February 6, 2023, there I was at home with my daughters, Alivia who is 14, and Samantha who is six-teen years old and quadriplegic resulting from a TBI. My husband had left for work. At approximately 1:00 pm Governor DeWine came on the TV, and showed a map briefly and told us the of the evacuation circles of imminent "Death" with the in intention burn set for 3:00pm of the Vinyl Chloride tankers. I was horrified and broke down. Were we going to have to leave? I am there alone with my daughters, 2 dogs, and cat and said to myself, "How the hell how am I going to get everyone out of here?". I am one hell of a strong woman, and have been through a severely devastating event with Samantha suffering 5 cardiac arrests in 2019 for no-known root causes.

Fast forward, to today, I am the only member in our house suffering chemical irritation on my skin, in my eyes, nose, throat and lungs. I couldn't take it anymore after 5 days of suffering March 2nd, have had to leave my home without my family, as to not suffer the symptoms from being in my tainted home and neighborhood.

This event has torn my family apart!!!! I knowing and feeling the "burn" will displaced. My husband refuses to leave the home. I will be taking my daughters and displacing them, which is traumatic and ultimately comparable to "moving mountains". This is just the beginning of what we and I have to deal with as an innocent person living in her happy accommodating home. The event is causing medical harm, financial devastation, trauma, and family up contention and absolute ruin.

More, to come, as I say this is just the beginning of the ripple of having to suddenly adjust to survive and adapt, for me and my family...

Senator CARPER. Senators are going to be allowed to submit written questions, we call them QFRs, questions for the record, through the close of business on Thursday, March 23d. We will compile those questions and send them to our witnesses, to all of you, and we will ask to reply by Thursday, April 6th.

The last thing I want to say is my mother was a deeply religious woman. She would drag my sister and me to church in West Virginia, where we were born, drag us to church every Sunday morning, every Sunday night, every Wednesday night, and every Thursday night. She wanted to make sure we understood the difference between right and wrong.

We embraced Matthew 24, the least of these, when I was hungry did you feed me, when I was naked, on and on. She was really big on the Golden Rule. She never used the word default, when you are not sure what to do, default to the Golden Rule. That is what I do. You can never go wrong.

It is a choice like this, we have to just put ourselves in the shoes of the people in East Palestine and other places around the Country when they are similarly scared and have their lives changed, their livelihoods diminished, and the value of their homes diminished.

We just have to put ourselves in the shoes of those people and do it over and over and over and over again. If we do that, at the end of the day, we will have done our jobs and actually done the right thing which we talked about here quite a bit.

Last thing, I used the word empower earlier. One of the things I say a whole lot is if you give a person a fish, you feed them for a day. If you teach a person to fish, they can feed themselves for a lifetime.

I always thought that was in the Bible. I have quoted it a million times. I did it about a year ago when I was giving a speech. After it was over, a preacher came up to me and said, Senator, that is not in the Bible. I said, well, it should be, or it ought to be.

In addition to making sure people have a place to live, we clean-up the water and everything, the idea of empowering people to help themselves, that is what people want. They want to be empowered. We all have a hand in doing that. I pledge that that is going to be part of our focus on this committee going forward.

To the guy who used to ride the train a lot, Albert Einstein, who used to ride the train a lot in the northeast corridor 100 years ago, again, he did say more than a few times, in adversity lies opportunity. Lots of adversity here, lots of adversity here, but we are not without opportunity as well.

I think with your help and the folks that you represent we are going to come close to realizing that opportunity. If we do, the people in these communities that have been more than disadvantaged, really subjected to a terrible episode in their lives, but at the end of the day I hope they will say, they must have read the Golden Rule somewhere because they have come through for us.

With that, I already mentioned questions for the record, it is a wrap. We are done. Thank you very much. There is a lot more to be done. Thank you for your participation today.
[Whereupon, at 1:04 p.m., the hearing was adjourned.]

