OVERSIGHT OF THE ONGOING RAIL, PIPELINE, AND HAZMAT RULEMAKINGS

(114–12)

HEARING

BEFORE THE

SUBCOMMITTEE ON
RAILROADS, PIPELINES, AND
HAZARDOUS MATERIALS

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTEENTH CONGRESS

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Committee on Transportation and Infrastructure
U.S. House of Representatives

Bill Shuster
Chairman

Washington, DC 20515

Peter A. DeFazio
Ranking Member

April 10, 2015

SUMMARY OF SUBJECT MATTER

TO:	Members, Subcommittee on Railroads, Pipelines, and Hazardous Materials
FROM:	Staff, Subcommittee on Railroads, Pipelines, and Hazardous Materials
RE:	Subcommittee Hearing on "Oversight of Ongoing Rail, Pipeline, and Hazmat Rulemakings"

PURPOSE

The Subcommittee on Railroads, Pipelines, and Hazardous Materials will meet on Tuesday, April 14, 2015 at 10:00 a.m. in 2167 Rayburn House Office Building to receive testimony from the Federal Railroad Administration, the Pipeline and Hazardous Materials Safety Administration, and the National Transportation Safety Board on matters relating to current railroad, pipeline, and hazardous material rulemakings.

BACKGROUND

The safe and efficient movement of people and goods is the top priority of all transportation stakeholders. Nonetheless, as our transportation system continues to expand and become more complex, industry and regulators must remain vigilant in maintaining safety. Federal agencies must develop, implement, and oversee rules and regulations to help keep the movement of people and goods flowing safely and efficiently.

The Federal Railroad Administration (FRA) is the federal agency charged with ensuring the safe movement of people and goods by rail. The agency has jurisdiction over all freight, commuter, and intercity passenger rail transportation. FRA promulgates regulations, notices safety advisories, and issues emergency orders to ensure, among other things, that railroads and equipment are operated and maintained in a safe manner. FRA closely monitors data and trends to identify, reduce, and eliminate risks.

When it comes to the safety of transporting hazardous materials, the Pipeline and Hazardous Materials Safety Administration (PHMSA) is responsible for protecting against the risks to life, property, and the environment that are inherent in the transportation of hazardous material, regardless of mode. PHMSA is also the agency within the Department of

Transportation (DOT) responsible for providing adequate protection against risks to life and property posed by oil and gas pipelines and pipeline facilities.

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation – railroad, highway, marine, and pipeline. The NTSB determines the probable cause of the accidents and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the federal government and other organizations to provide assistance to victims and their family members impacted by major transportation disasters.

Since its inception, the NTSB has investigated more than 132,000 aviation accidents and thousands of surface transportation accidents. Although the NTSB has no authority to regulate the transportation industry, the NTSB has issued over 13,000 safety recommendations to more than 2,500 recipients that have served as the basis for many congressional mandates.

Rulemaking Process

The federal government creates or modifies rules and regulations through a rulemaking process guided by the Administrative Procedure Act (APA), codified in title 5, United States Code. The process involves notice in the *Federal Register* and the opportunity for public comment in a docket maintained by the regulating agency. In addition to complying with the APA, a federal agency must also publicize regulations and rules in compliance with other statutory mandates and its own rules and policies.

The process typically begins with identifying a need for regulatory action usually as a result of a public petition, internal review, casualty investigation, change in an international treaty, or an act of Congress. Then, the agency forms a rulemaking team. The rulemaking team creates a detailed and comprehensive work plan, which summarizes and defines the rulemaking project and ensures the availability of proper resources. The rulemaking team typically drafts a Notice of Proposed Rulemaking (NPRM) for publication in the *Federal Register*. Prior to publication in the *Federal Register*, the NPRM must be cleared through internal offices, and externally through the Office of Management and Budget (OMB). However, depending on the subject matter, the process may begin with an Advanced Notice of Proposed Rulemaking (ANPRM), published in the *Federal Register*, to receive input from the public on the topic to aid in developing the NPRM. If rulemakings are deemed significant or economically-significant, agencies are also required to publish Regulatory Impact Analysis (RIA) that provide a detailed cost and benefit analysis for the proposed rule.

The agencies accept public comments in response to an NPRM for 90 days. The rulemaking team reviews the public comments and develops responses in accordance with APA requirements. The rulemaking team posts all *Federal Register* documents, including NPRMs, public notices, economic and environmental analyses, studies and other references, and public comments to a public docket accessible via the www.Regulations.gov website.

After considering public comments, the rulemaking team typically drafts a final rule for publication in the *Federal Register*. The final rule must contain: (1) the regulatory text; (2) a concise general statement of the rule's basis and purpose; and (3) a discussion of the public comments and the agency's responses. Prior to publication in the *Federal Register*, the final rule must be cleared in a manner similar to the NPRM clearance process described above.

The final rule includes an effective date which is typically 90 days after publication of the final rule in the *Federal Register*. The regulatory process is completed as of the effective date. However, once the rulemaking is effective, its implementation may be delayed by legal action.

Department of Transportation Rules

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011

The Pipeline Safety, Regulatory Certainty, and Job Created Act of 2011 (2011 Act) (P.L. 112-90) was enacted on January 3, 2012; it is set to expire at the end of Fiscal Year 2015. The Act included 48 congressional mandates for PHMSA, the most consequential of which PHMSA has failed to implement. Of the 48 mandates, only 23 are complete. PHMSA reports it combined all of the hazardous liquid requirements in the 2011 Act into one rulemaking that is at OMB; the gas rulemaking is still in the Office of the Secretary. The outstanding rulemakings include:

Automatic and Remote-Controlled Shut-Off Valves for New Transmission Pipelines: Section 4 of the 2011 Act directs the Secretary, if appropriate, to require by regulation the use of automatic or remote-controlled shut-off valves, or equivalent technology, where economically, technically, and operationally feasible on transmission pipeline facilities constructed or entirely replaced after the date on which the Secretary issues the final rule.

Maximum Allowable Operating Pressure: Section 23 of the 2011 Act directs the Secretary to require each pipeline owner or operator of an interstate and intrastate gas transmission pipeline in high consequence areas (HCA) (populations of 50,000 or more, environmentally-sensitive areas, and commercially navigable waterways) or within close proximity of homes, buildings, or an area that is frequently occupied to: (1) verify the physical and operational standards of each pipeline segment; (2) identify and submit documentation to the Secretary on the maximum allowable operating pressure (MAOP) of each pipeline segment; and, report any exceedances of MAOP within five days of when the exceedance occurs. The Act also requires the Secretary to issue regulations for testing the material strength of previously untested gas transmission pipelines in HCAs. PHMSA has issued three advisory bulletins to industry on establishing and reporting of MAOP and verification of records. A rulemaking is still under consideration.

Integrity Management: Current law requires owners or operators of a gas and hazardous liquid pipelines to develop and implement written integrity management programs to ensure the integrity of their pipelines in HCAs and to reduce risk of injuries and property damage from pipeline failures. These programs must include procedures and processes to identify HCAs, determine likely threats to a pipeline within a HCA, evaluate the physical integrity of a pipe within a HCA, and repair or remediate any pipeline defects found.

Section 5 of the 2011 Act required the Secretary to transmit a report to Congress evaluating (1) whether gas and hazardous liquid pipeline integrity management programs should be expanded beyond HCAs; and (2) with respect to gas transmission pipeline facilities, whether applying integrity management program requirements to additional areas would mitigate the need for class location requirements. The Secretary was required to issue final regulations, if the Secretary found in the report that integrity management requirements should be expanded beyond HCAs. Though the deadline was January 3, 2014, the report has not been completed.

Leak Detection: Section 8 of the 2011 Act required the Secretary to transmit a report to Congress on leak detection systems utilized by operators of hazardous liquid pipelines and transportation-related flow lines to detect ruptures and small leaks. In conducting the study, the Secretary must analyze the technical limitations of current leak detection systems and consider the practicability of requiring technical, operational, and economically feasible leak detection standards for operators.

The Secretary found that it was practicable to establish such standards, and therefore the Administration plans to issue final regulations to require operators to use leak detection systems where practicable and establish standards for the capability of such systems to detect leaks. PHMSA reports a rule is currently under agency review.

DOT "High-Hazard Flammable Train" Rule

The DOT Specification 111 tank car (DOT-111) is a non-pressurized tanks car and the most common tank car in the railroad industry, used to transport commodities from vegetable oil to crude oil. In 2011, the railroad industry petitioned PHMSA for improved tank car standards.

On September 8, 2013, PHMSA published an ANPRM seeking public comment on the 2011 petition, among other tank-car related petitions.

On July 23, 2014, PHMSA, in coordination with FRA, issued an NPRM on "Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains" or unit trains of 20 or more tank carloads of flammable liquids. The NPRM proposed all new tank cars be equipped with jackets, thermal protection, and full-height head shields, then provided three options for public comment. Option 1 would provide for tank and head shell thickness of 9/16 inch, enhanced rollover protection, thermal resistance, and electronically controlled pneumatic brakes (ECP). Option 2 would provide for tank and head shell thickness of 9/16 inch and thermal resistance, but maintain existing rollover protection and distributed power braking or end-of-train devices. Option 3 would provide for tank and head shell thickness of 7/16 inch and thermal resistance, and maintain existing rollover protection and distributed power braking or end-of-train devices.

The NPRM also included proposals to retrofit or retire existing tank cars based on the Packing Group (PG) of the materials, PG ranges from I to III, with PG I the greater risk and PG III the lowest risk.

The NPRM proposes options for speed restrictions for trains not meeting the new standards: (1) 40 mph in all areas; (2) 40 mph in high threat urban areas; (3) 40 mph in all areas

with 100,000 people; or (4) 30 mph in all areas. The rule also proposes the railroads conduct routing analyses to consider 27 safety factors in deciding how to route high hazard flammable trains, and notify State Emergency Response Commissions of expected movements of 1 million gallons of Bakken crude.

PHMSA's website reports a final rule will be issued on May 12, 2015.

Moving Ahead for Progress in the 21st Century Act (MAP-21)

The Hazardous Materials Transportation Safety Act of 2012, which was included in MAP-21, made a number of reforms to how the transportation of hazardous materials (hazmat) is regulated by the Secretary of the Department of Transportation (DOT) under 49 U.S.C. § 5101-28, "Transportation of Hazardous Material." Of the 24 reforms required in MAP-21, 11 are complete, nine are late and four are on-going. The Committee will continue to explore DOT's progress in implementing the reforms, requirements, and programs established under MAP-21, some of which are described below.

Special Permits and Approvals: Section 33012 of MAP-21 requires a rulemaking by PHMSA to establish standard operating procedures for the administration of the special permits and approvals programs and to create objective criteria to support evaluation of special permit and approval applications.

For special permits, section 33012 directs the Secretary to conduct a review and analysis of any permits that have been in continuous effect for a 10-year period to determine which permits can be adopted into the Hazardous Materials Regulations (HMR). After the analysis is complete, but no later than three years after enactment, the section authorizes the Secretary to issue regulations for incorporating such special permits into the HMR. The section also directs the Secretary to publish in the *Federal Register* justification in the case of special permits that are not appropriate for incorporation into the HMR. Similarly, the section includes a process for PHMSA to review a special permit for incorporation into the regulations once that permit has been in effect for 10 years.

Hazardous Materials Safety Permits: Section 33014 directs the Secretary to review the implementation of the hazardous material safety permit program. It directs the Secretary to consider factors, including the list of hazardous materials requiring a safety permit, the criteria used by PHMSA to determine whether a hazardous material safety permit issued by a state is equivalent to the federal permit, and actions to improve the program including an additional level of fitness review. Based on the findings of the review, the Secretary may either issue a rulemaking to make necessary improvements to the program, or publish in the *Federal Register* the justification for why a rulemaking is not necessary. The Secretary submitted the report on March 11, 2014 detailing six actions to improve the program and rule making structure, but was late on the deadline.

Wetlines: Wetlines are product piping located beneath a cargo tank, which are used for bottom loading of gasoline or other petroleum products. A 9,000-gallon cargo tank may contain five separate compartments, allowing more than one product to be transported. Each compartment has its own wetline. Wetlines are designed to break off if struck by an object or another vehicle,

rather than compromise the integrity of the cargo tank shell and risk losing the contents of the entire container or compartment. An additional benefit of wetlines is that drivers and loaders do not have to climb on top of the tanker as often, resulting in fewer deaths or injuries from slips and falls.

Wetlines may remain filled with flammable product after loading or unloading. Five-compartment tank wetlines typically contain 30-50 gallons of the flammable liquid. In the event that another vehicle strikes the side of a trailer, the impact would likely detach unprotected wetlines and release their contents.

On January 27, 2011, PHMSA issued a NPRM to prohibit the use of wetlines. Section 33015 of MAP-21, prohibited the Secretary from issuing a rulemaking on wetlines until the Government Accountability Office (GAO) evaluated the issue. The study was completed in September 2013, and found that PHMSA's data could not be used to reliably identify risks from incidents involving collisions and spills from tank trucks' wetlines because the risks are not specifically identified in PHMSA's database and the data contains inaccuracies. It also expressed concern that PHMSA's analysis of the costs and benefits of its proposed 2011 rule did not account for uncertainties in its analytical assumptions and limitations in the underlying incident data. As a result, GAO found that PHMSA inaccurately represented the costs and benefits of the proposed rule. GAO made several recommendations to PHMSA for improving their data and rulemaking processes.

WITNESS LIST

Sarah Feinberg
Acting Administrator
Federal Railroad Administration

Timothy P. Butters
Acting Administrator
Pipeline and Hazardous Materials Safety Administration

Christopher A. Hart
Chairman
National Transportation Safety Board

OVERSIGHT OF THE ONGOING RAIL, PIPELINE, AND HAZMAT RULEMAKINGS

TUESDAY, APRIL 14, 2015

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:08 a.m. in room 2167, Rayburn House Office Building, Hon. Jeff Denham (Chairman of the subcommittee) presiding.

Mr. DENHAM. The Subcommittee on Railroads, Pipelines, and Hazardous Materials will come to order. First, I would like to ask unanimous consent that Representatives Cheri Bustos and John Garamendi be permitted to join the subcommittee for today's hearing and ask questions.

[No response.]

Mr. DENHAM. Without objection, so ordered.

Our hearing today will focus on numerous matters related to current railroad, pipeline, and hazardous material rulemakings within the subcommittee's jurisdiction. Last year, we had two hearings that covered these ongoing rulemakings: one on hazardous materials safety and tank cars and the other on pipeline safety.

I have heard too many times from industry and safety advocates that the Department of Transportation needs to move more quickly to implement the safety provisions Congress has passed. It is unusual to hear that industry wants to be regulated, and is pushing for rules to actually be completed. But the reality is companies can't invest in new equipment, in new employees, and in new ventures without regulatory certainty. In those two hearings, we expressed our frustration with the administration. Not enough progress has been made getting these numerous rules out.

Sadly, today we are back asking the same questions. Where are these rules? Why are they still delayed? What is the administration doing about it?

We believe in a risk-based, data-driven approach to safety. The administration states that they do as well. So, it should be easy to come up with rules that are data driven, apply cost-benefit principles, and get them out so both the public and industry can act accordingly.

This brings me to another point with the administration. Last year we had both FRA and PHMSA Administrators come before us to answer for the administration. Now we have two Acting Administrators. Mr. Butters and Ms. Feinberg have been good to work

with. We appreciate their service, and our frustration has nothing to do with either of them personally. But these are very important times, and we need certainty in these agencies' leadership. Yet, the administration has not formally nominated anyone for these top safety positions.

I would like to take a moment to thank Ms. Feinberg for coming to California last week at my request. I brought local leaders together to ask questions of FRA, and they had similar questions of what we have today. But, specifically, the people of the Central Valley are as concerned about rail safety as the rest of the country. We have been waiting and waiting for the new final crude-by-rail rule to be released, so that the Nation can move forward in creating safer rail systems.

Notably, Congress has acted on multiple occasions to speed this process along, and even imposed a statutory limit for releasing a finalized crude-by-rail rule. That deadline was promptly missed by the administration, which has led us to having this hearing today.

Again I want to thank you for coming to California last week. I hope it was—provided you a good perspective of what we are looking at from the Central Valley, and why the rule is important. I know my constituents appreciated it, our first responders and local elected officials appreciated it.

But to summarize, I hope to hear the status of the crude-by-rail rule. Specifically, is it still at OMB? Has OMB sent the rule back to the agency for further analysis? And when will it actually be published?

I look forward to hearing about the comments from DOT about the draft rule, how DOT is planning to address the final rule. And, additionally, I would like to hear each panelist's opinions on actually implementing the rule.

We have heard from many different sides on this issue on the capacity of American tank car manufacturers and how quickly a new mandate can be implemented. So I would ask that you please provide this committee with what you think that capacity is, and how soon the tank car designs will be able to be completely phased in in our Nation's freight network.

In closing, I look forward to hearing from our witnesses regarding these issues.

I would now like to recognize Ranking Member Capuano from Massachusetts for 5 minutes for any opening statement he may have.

Mr. CAPUANO. Thank you, Mr. Chairman. Mr. Chairman, it was interesting. I think you just stole my opening statement. I agree with everything you just said, except the phrase, "Central Valley." Just change that to "New England." He is 100 percent right. I have nothing to add to it.

I am looking forward to this hearing, and I am looking forward to truly engaging. Because, to be perfectly honest, some of the concerns I have—and I am still learning a lot of this stuff—it is just unacceptable. It is just unacceptable. And I am a supporter of the administration. I know we have new people in place, but I think today is going to be not as much fun as some of you might like, because, honestly, you are going to have a hard time telling me why some of these things have taken this long.

But, with that, I yield back, Mr. Chairman, and thank you for allowing me to give my speech.

Mr. DENHAM. Thank you. Now I call on the full committee chairman, Mr. Shuster, for any opening statement he may have.

Mr. SHUSTER. Thank you, and good morning, everybody. Appreciate Chairman Denham and Ranking Member Capuano for having this hearing today. I think you are going to hear a lot of sentiment that is shared by Mr. Capuano and Mr. Denham throughout this hearing today.

I want to begin by saying safety is the highest priority of this committee, and it is the number-one job and the number-one task of the Department of Transportation for you to carry out that safety mandate. Our railroads and pipelines are critically important for safe movement of goods and people around this country.

The good news is that overall safety trends in both modes are trending in the right direction, and that is positive. However, there have been accidents over the past 12 months dealing with rail and pipeline that—so it is important for us to take a close look at this. As a member of this committee, it is important, but also as someone who—in my district we have a significant number of oil trains that pass through each day. Adjusting regulations to changing market conditions is a complicated task. And having regulators draft up rules for comment by those impacted is the right way to go about making regulatory changes. However, it is very important the administration carefully base those rules on data, and that—take a risk-based approach. I think that is the smart way for us to move.

I am concerned that DOT has not been able to move many of the mandated rules from the 2011 Pipeline Safety Act. I would like to know why they haven't moved forward. And I would also like to hear about the status of the hazmat mandates in MAP–21. I have concerns about the administration's slow pace addressing the increased movement of crude-by-rail. And, as Mr. Denham and Mr. Capuano have pointed out, it is far too slow. It needs to happen. The industry, as Mr. Denham points out, is crying out to get a new standard on these tank cars. The NTSB has called for new tank cars. I have even sent a letter to OMB and to DOT and have yet to get a response on where we are in the process. We need to get moving forward.

I appreciate everybody being here today. I would just probably warn you it is going to be a vigorous question and answer period here today, finding the answers we need to hear. It has—again, it has gone on far too long, and we need to have answers.

I appreciate Representative Speier being here today. I know she has great concerns over pipeline safety, and we look forward to hearing from her today, also.

So, thank you very much, and yield back.

Mr. DENHAM. I now call on the ranking member of the full committee, Mr. DeFazio, for any opening statement he may have.

Mr. DEFAZIO. Thank you, Mr. Chairman. You know, later this year we are looking at pipeline reauthorization. And I have got to say, as a member of the committee, I am going to wonder why we should do that, because we still haven't implemented the majority of the 2011 Act.

I mean, you know, if you look at what is not done: automatic shutoff valves not done, leak detection not done. You know, there is a number of really critical mandates from this Congress that aren't done. One is rumored to be sitting on the Secretary's desk, one is rumored to have moved to OMB a year ago. We really don't know. I mean, in part, it points to, I think, the need for changes in the regulatory system itself, and creating more transparency, and I would love to address that at another time. I won't get into that too much now, but those cause tremendous concerns.

The DOT–111 tank cars, Mr. Chairman, you sent them a letter, you didn't hear back. I called them yesterday, and it was opaque, as usual, but we can expect something very robust in the not-too-distant future, probably. So there is your answer.

And they are aware of the recent concerns that were expressed by NTSB in investigating the last two accidents, West Virginia and Virginia, and some of the new conclusions regarding the 1232 cars, the lack of thermal insulation, et cetera. They are aware of those things. That made me feel really good. So, there is that.

You know, we are really talking about life and death here on a lot of these issues. And there is another area which I intend to have some questions regarding the transport of lithium batteries. We have a number of domestic air carriers who have just drawn a line in the sand and said, "We are not carrying those things on passenger planes any more." And it is rumored this came out of a briefing of ICAO down in South America with the manufacturers, and the fact that the fire suppression systems on those planes cannot deal with lithium battery fires and occurrences that have happened. And yet we are locked in a place—a former Congress said that they can't exceed the ICAO standards. The ICAO standards are laughable. Whatever the Chinese want to put into a crummy cardboard box and stick into an airplane and not label, that is fine with ICAO. So I will be raising some issues about that, too.

We really are talking about life and death here. We need a more transparent, more efficient process. We created PHMSA back when Norm Mineta was Secretary, with the idea that we needed to have a laser-like focus and more efficiency and more distance from the regulated entities, and the solution was supposed to be PHMSA. I really wonder if it has worked. I wonder if we would be better off if we had some people who just looked at pipelines. That is a unique mode. If we had safety people in FRA who were dealing with tank cars and understand railroads better, and if we had the aviation people dealing with stuff that the industry itself says it doesn't want to carry on airplanes. We are not seeing the kind of performance we need here out of this theoretically integrated, efficient agency that should be at arm's length from all of those that they regulate.

So, those are a few of the questions I have today, Mr. Chairman. Thank you.

Mr. DENHAM. Thank you, Mr. DeFazio. We have two panels today. Our first panel is with Representative Jackie Speier from California. After receiving testimony from our first panel, we will proceed immediately to our second panel.

I ask unanimous consent that our witnesses' full statements be included in the record.

[No response.]

Mr. DENHAM. Without objection, so ordered.

Since your written testimony has been made part of the record, the subcommittee would request that you limit your oral testimony to 5 minutes.

Ms. Speier, you may proceed. Welcome to the Committee on Transportation and Infrastructure.

TESTIMONY OF HON. JACKIE SPEIER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. SPEIER. Mr. Chairman, thank you. And to Ranking Member Capuano, to Chairman Shuster, and Ranking Member DeFazio, I really appreciate the fact that you are holding this hearing today, because I have struggled with pipeline safety now for 5 years. And we have made very little progress. The system, frankly, is fundamentally broken.

It is personal to me. I have spent hundreds of hours in hearings, in boardrooms, at town halls, and very little has changed. It has scarred not just my district, but the entire region.

This is a distant view of the Pacific Gas and Electric natural gas pipeline explosion in San Bruno, California. When it happened in September of 2010, everyone thought that a plane had dropped out of the sky, the explosion was so great, and seen so far away.

Closer up scenes were horrific. Eight precious lives were lost. Many others were hospitalized for months with life-threatening burns. I visited many of them at the burn center in San Francisco. Three people were considered missing for more than 2 weeks, because there was so little DNA from the intense fire to positively identify them. Thirty-eight homes were completely destroyed, and dozens more were seriously damaged. It looked like a war zone.

Those numbers do not adequately describe the terror that was inflicted on an entire community. And all this was caused by a pipeline that hadn't been inspected since 1956, thanks to the irresponsible gaping hole in our regulations known as the Grandfather Clause. And Congress put the Grandfather Clause in place. And then, in 2011, we said to PHMSA, "We want you to take this out, and you have 18 months in which to do it." We are 3 years later, and still they haven't done it. I have sent letters to them, and they come back with, frankly, gobbledygook.

This is a piece of pipe that failed in San Bruno because the Grandfather Clause was—allowed it to go uninspected for decades. The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 eliminated this terrible policy, which previously had allowed companies to bypass comprehensive inspections of older pipes. But here we are, in 2015, and PHMSA has not yet released a rule implementing those reforms.

Frankly, how difficult is it to strike a line in a law that says the Grandfather Clause is no longer in effect? The deadline to release the rule, as I said, was 18 months, and it has been twice as long. It is clear to me that PHMSA is a toothless tiger without the clout to make the serious reforms recommended by respected institutions such as the National Transportation Safety Board. PHMSA keeps saying that it is working on an improved integrity management system. But after industry complained that it was too expensive,

PHMSA allowed its nascent rulemaking to be quietly consigned to the bureaucratic dustbin.

While safety does cost money, so does death and destruction. On this slide is what the utility responsible for San Bruno—Pacific Gas and Electric—has paid, or may pay, that we know about so far. The stunning figure is $3.9 billion. This is paid by shareholders, not by ratepayers.

California's problem with PHMSA and its own State pipeline regulatory agency are a microcosm for the rest of the Nation. Despite PHMSA's paying for about 80 percent of pipeline safety program costs, a crony culture developed between the industry and State regulators in California, and PHMSA claims they can do nothing about it. Despite mounds of evidence showing that industry executives were wining and dining top State regulators and flouting ex parte communication rules, PHMSA claims to be powerless to bring CPUC to its heels. Considering that PHMSA holds the power of the purse, I find this hard to believe.

Now, in exposés that have occurred in California, PG&E email exchanges with the California Public Utilities Commission exposed complicity of CPUC in judge-shopping, in advice, in public relations, engagement in the initiative process, and a quid pro quo relationship.

This bankrupt safety culture regularly defeated enforcement of Federal and State standards. Just today, an external auditor found that the CPUC gas safety enforcement efforts have actually gotten worse and slower since the explosion in San Bruno. This is unacceptable, and PHMSA must step in.

But this is par for the course for PHMSA. In the aftermath of the San Bruno disaster, I met with then-Administrator Quarterman many times. Each time, as I pushed for regulations that would actually improve pipeline safety across the Nation, she would say, "We don't have the authority." I am sure that was true in some cases, but in the case of the Grandfather Clause, PHMSA has crystal-clear authority and still refuses to act. In this case, PHMSA is not only a toothless tiger, but one that has overdosed on quaaludes and has passed out on the job.

In addition to the technical issue of proper integrity management, PHMSA's oversight of safety programs is lax. They have been amply described in formal reports by both the NTSB and the Department of Transportation inspector general. PHMSA's problems, which Congress must help them address, are clear. PHMSA's guidance, protocols, and training for State inspectors are inadequate. PHMSA's pipeline location data has internal discrepancies. PHMSA's database makes it more difficult for operators to learn from incidents. Overall, neither industry nor State nor Federal Government produces good pipeline safety data. It is garbage in and garbage out.

Though I have talked about San Bruno, I want to emphasize that the lack of adequate pipeline safety measures is a nationwide problem, not a bay area or California problem. In 2011, a leak from an 83-year-old cast-iron main in Allentown, Pennsylvania, in the chairman's district, caused a blast that killed five people. In 2012, a gas pipeline explosion outside of Charleston, West Virginia, destroyed several properties. In 2014, a leak in a 127-year-old pipe-

line in Harlem, New York, killed 8 and injured 50 more. In each incident we see the same reoccurring problems: aging infrastructure and inadequate inspection. How many more of these tragedies do we need before we get serious about pipeline safety?

In closing, I urge the chairman, ranking member, and committee members to keep the tragedy of San Bruno in mind as you conduct oversight and start to consider reauthorization of PHMSA's Federal pipeline safety program. We know how to prevent pipeline explosions.

Look at this picture here. It is, indeed, a war zone. We need automatic remote control shutoff valves. Now, PG&E has put in 200 of them now. The law that we passed in 2011 said that you only had to put them in if they were technologically available and economically feasible. When is it going to be——

Mr. DENHAM. Ms. Speier, I would ask you to wrap it up.

Ms. SPEIER [continuing]. Economically feasible?

I know I need to close, so thank you, Mr. Chairman, for the opportunity to speak.

Mr. DENHAM. Thank you, Ms. Speier. Thank you for your testimony today.

I would now like to welcome our second panel of witnesses: Sarah Feinberg, Acting Administrator from the Federal Railroad Administration; Tim Butters, Acting Administrator, Pipeline and Hazardous Materials Safety Administration; and the Honorable Christopher Hart, Chairman of the NTSB, the National Transportation Safety Board.

Welcome to this morning's hearing. I would reiterate once again that I appreciate your openness, your communication, as well as I know a number of members of this committee have expressed their appreciation for your accessibility and responsiveness to questions that we have had.

Ms. Feinberg, you may proceed.

TESTIMONY OF SARAH FEINBERG, ACTING ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION; TIMOTHY P. BUTTERS, ACTING ADMINISTRATOR, PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION; AND HON. CHRISTOPHER A. HART, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD

Ms. FEINBERG. Thank you. Chairman Denham, Ranking Member Capuano, Ranking Member DeFazio, members of the subcommittee, thank you so much for the opportunity to appear here before you today.

As Acting Administrator, I have already had the privilege of meeting with many of you, and even visiting some of your districts. Mr. Denham, I want to thank you for hosting me last week in your district. I was grateful to spend time with your constituents. And, Mr. Garamendi, I enjoyed spending time in your district, as well.

Let me start off today by saying that I welcome all of your continued interest and efforts to work closely with the FRA, and I can assure you that working closely with this committee is a top priority of mine.

In my 3 months serving as Acting Administrator, the FRA has responded to five major rail incidents, some involving deaths and

injuries, and many smaller incidents. Each incident has underscored for me FRA's top priority, which is improving safety.

Safety has always been the priority of the agency, and it always will be. At the FRA we have a mandate to provide oversight, enforcement, and regulations that will set the bar for rail safety. It is a challenging task, and one that demands collaboration and cooperation. As stipulated by the U.S. regulatory process, we do not have the freedom to simply conceive of a new safety regulation and allow it to become the law of the land. The regulatory actions we issue must be born out of a robust dialogue with all stakeholders, the public, and industry, and a rigorous economic analysis that considers both the benefits to safety and the cost to industry.

In other words, as the chief rail safety regulator, we are tasked not just with raising the bar on safety, but also with ensuring that, as we raise that bar, we are taking all perspectives and opinions into account.

Since Congress passed the Rail Safety Improvement Act in 2008, the FRA has completed action on 33 tasks, including rules, studies, reports, and other actions, with 10 tasks still to be completed. That work has improved safety outcomes. It has also enabled us to focus on some of our greatest challenges, and challenges where the stakes are the highest: the safe transport of energy products like crude oil, track hazards, and grade crossings.

That said, thanks in great part to this committee's leadership and partnership with the FRA, the rail industry is safer than it was a generation ago. But we have a long way to go. For years, the FRA has had success with our prescriptive rulemaking and enforcement program. But getting to the next level of safety requires us to be innovative. This includes pushing forward with risk reduction programs like the Confidential Close Call Reporting System, plus system safety programs for passenger operations. The programs uncover root causes behind accidents, and help identify accident precursors, enabling railroads to put prevention measures in place.

We also continue to work on a final rule for securing unattended train equipment, and proposed rulemakings related to train crew size and passenger equipment safety standards. And, of course, we remain laser-focused on our work to ensure the safe transport of energy products. In partnership with our colleagues at PHMSA, we are completing work on a final comprehensive rulemaking that addresses prevention, mitigation, emergency preparedness, and response to crude train incidents.

We are also taking an aggressive posture against the rising tide of highway rail grade crossing incidents. In addition to calling for increased grade crossing improvement funding in the GROW AMERICA Act, we have partnered with law enforcement. And law enforcement in New York, California, Idaho, Illinois, and elsewhere are responding. We are grateful for their help, and we will continue this effort as we broaden our focus on a public awareness campaign.

Additionally, as RSIA required, we continue to work with railroads to implement Positive Train Control. We look forward to continuing to work with this Congress and the industry and its suppliers in addressing the obstacles preventing its swift implementation.

And, finally, we look forward to working with this Congress on the reauthorization of a surface transportation bill that includes rail. The House has already made great strides in this area by passing legislation focused on passenger rail. We greatly appreciate this committee's work on that priority. We look forward to working with this Congress on a package that will also enable the FRA to balance our regulatory framework with innovative, proactive ideas that will advance safety and provide capital investments that serve as a foundation for the next generation of safety improvements.

Thank you again, Mr. Chairman. I look forward to taking your questions.

Mr. DENHAM. Thank you, Ms. Feinberg.

Mr. Butters, you may proceed.

Mr. BUTTERS. Good morning. Chairman Denham, Ranking Member Capuano, and Ranking Member DeFazio, thank you. And the other members of the subcommittee, thank you for having me appear before you this morning.

As you know, PHMSA's mission is the safe transportation of hazardous materials. Over 1 million shipments move every day in the United States by air, rail, truck, and marine vessel. We are also charged with the safe operation of about 2.6 million miles of hazardous gas and liquid pipelines.

The transportation of these products is critical to our Nation's economy and our quality of life, and we take our responsibilities very seriously.

Because these transportation systems are privately owned, it places primary responsibility and accountability for the safe operation of those systems on the owners and operators. They must ensure their equipment and facilities are maintained and operated safely, above and beyond what is required by regulation. Our job at PHMSA, along with our State partners, is to ensure these systems are in compliance with Federal safety requirements through vigorous inspection and enforcement.

Unfortunately, recent incidents involving hazardous materials have underscored the absolute importance of PHMSA's mission. I have seen firsthand the aftereffects of rail incidents in Lynchburg, VA, Mount Carbon, WV, and the impact of pipeline failures in San Bruno, CA, Sissonville, WV, Marshall, MI, and, most recently, in Glendive, MT, and the impact that these have had on those communities.

It is our duty to ensure the public has the confidence that their safety and the environment are well protected. Although there have been several recent high-profile incidents, history has shown that these incidents are infrequent. The overall safety record for the transportation of hazardous materials in the U.S. is very good, and continues to improve. Pipeline and hazmat incidents involving fatalities, major injury, or significant environmental damage have been on the steady decline since 1988. While the safety record has been good, it is not good enough, and more needs to be done.

Significant incidents are rare, but can have significant and devastating consequences. In the fiscal year 2015 budget approved last December, PHMSA was authorized with 120 new positions for both our hazmat and pipeline safety programs. We are fully engaged to fill these positions, and we are at nearly 30 percent thus far, noting

that we are also competing with the private sector that is also needing to fill jobs. I am confident that we will have most of these positions filled by the end of this calendar year.

The dramatic growth in domestic energy production across the country has also generated a great deal of attention to the safe transportation of flammable liquids by rail, primarily shale crude oil, and rightfully so. We are very cognizant of these concerns, and the entire Department, beginning with Secretary Foxx, understands the importance and urgency to address these issues. Our comprehensive strategy, focusing on prevention, mitigation, and emergency preparedness in our final rule to improve the safe transportation, has been our highest priority. It is currently under review by OMB, and we expect it to be released very soon.

But we aren't waiting on new regulations to address safety concerns that can be addressed now. We have and will continue to use every available option to take immediate action, and stand prepared to take additional steps. DOT has successfully engaged the rail industry, the hazmat industry, and pipeline industry through various calls to action, asking them to take additional safety actions in the face of these incidents.

In 2013 we launched an effort that we now call Safe Transportation of Energy Products—unannounced inspections—to ensure shippers are properly testing and classifying crude oil and other flammable liquids. I am encouraged by the shippers' increased efforts to properly test and classify hazmat since we started this program 2 years ago.

PHMSA remains focused on meeting the congressional mandates that were included in the Pipeline Safety Act of 2011 and MAP–21. The NTSB has also issued 49 pipeline safety recommendations since 2011, including 22 recommendations issued this past January. PHMSA has completed half of the Pipeline Safety Act's mandates, four of the six required regulatory actions under MAP–21, and we have satisfied many NTSB recommendations.

I have had the opportunity to meet with many of you individually, and also visit some of your districts, and I appreciate the support of this subcommittee and what it has provided to PHMSA. We look forward to working with this Congress to advance PHMSA's safety mission. I am pleased to answer any questions that you may have.

Mr. DENHAM. Thank you, Mr. Butters.

Mr. Hart, you may proceed.

Mr. HART. Thank you. Good morning, Chairman Denham, Ranking Member Capuano, and members of the subcommittee.

In the last few years, we have experienced an exponential increase in the carriage of flammable liquids by rail. With this growth, the NTSB's rail and hazardous materials investigators have responded to an increasing number of accidents.

Currently, we are investigating a crude oil accident near Casselton, North Dakota, that occurred in December 2013, in which 20 cars derailed and nearly one-half million gallons of oil spilled, burning for more than 24 hours.

We are also investigating accidents involving industry specification CPC–1232 tank cars that were designed to improve crashworthiness. These include a derailment in Lynchburg, Virginia, in

April 2014, in which one car derailed, was punctured, and fell into the James River. The resulting crude oil-fed fire burned for several hours.

We are participating in the investigation of the Mount Carbon, West Virginia, accident in February 2015, and have collected information about the Galena, Illinois, accident in March 2015, and two accidents in Ontario, Canada, in February and March 2015. These accidents involve breaches to 1232 tank cars that resulted in fires that compromised more than 20 additional tank cars, leading to violent fireball eruptions.

As demonstrated in these accidents, no less than six major derailments in only 16 months, we believe that the DOT–111 and the CPC–1232 tank cars are not adequate for transporting flammable liquids. Just last week, we issued four urgent recommendations to PHMSA to address these concerns. These recommendations ask PHMSA to, first, require thermal protection for cars transporting flammable liquid products such as ethanol and crude oil. Second, require appropriately sized pressure relief devices. Third, require an aggressive retrofit or replacement schedule of DOT–111 and CPC–1232 tank cars with interim mileposts. And, fourth, establish a publicly available reporting mechanism, such as the DOT Web site, to monitor the retrofitting or replacement of these tank cars.

We hope that the ongoing rulemaking process will consider these recommendations. In all these accidents, the first defense is to ensure the integrity of the operation, including the track and the train cars. We have issued a number of recommendations regarding track inspections.

We have also been concerned about the lack of information that is available to our first responders who must respond to a hazardous material release. Since 2007 we have asked the FRA and PHMSA to require rail operators who transport hazardous materials to provide more information to the communities through which they travel. Much of this information can be electronically transmitted to responders in the field. But in most accidents we have investigated, firefighters tell us that they had no idea that such products were traveling through their towns.

Recognizing that you convened this hearing to address issues beyond the carriage of crude-by-rail, I would also like to highlight a few other transportation issues that remain important to us, as more fully discussed in my written statement.

Implementation of Positive Train Control by the end of this year, as required by statute. We know that humans make mistakes, and Positive Train Control can step in when humans do make mistakes. It can prevent accidents and save lives.

Improving medical fitness for duty. In the rail industry, operators who are responsible for transporting hundreds of passengers or more than 100 carloads of hazardous materials on a single train, only have to pass a hearing and vision test. Screening for sleep disorders and other medical conditions should also be required.

Ensuring the safe carriage of hazardous materials by airplanes. This must include safe stowage of lithium batteries.

Improving pipeline integrity management oversight by PHMSA. This must ensure that correct information is evaluated so that it can be an effective risk-based system.

I appreciate your inviting the NTSB to testify today, and I look forward to responding to your questions.

Mr. DENHAM. Thank you, Mr. Hart. I will now recognize each Member for 5 minutes. Let me start on a couple of process questions.

Ms. Feinberg and Mr. Butters, while, again, I would express this committee has—many Members have felt that you have both been great communicators, and you have been available for meetings and been very accessible, I think that our concern—which has been voiced by many Members—is with the administration, the administration that has taken far too long on rules, an administration that has taken far too long on making sure that we have appointments that are moving forward.

This is a—you guys—out of the five Department of Transportation positions that are—have Acting Administrators, these two are critical to the safety of our country, in making sure that we are having goods and people movement—we need to make sure that we are not only vetting those new positions through the legislative branch, but we need to make sure that we are also discussing those rules and the implementation of them, as well as the long wait times to actually bring them back before Congress.

So, let me start with a couple of process questions to each of you. Do you each want to be nominated as a full-time Administrator? Are you currently being vetted for nomination as full-time Administrators? And can you tell me when your 210-day temporary term as Acting Administrator is up?

Ms. FEINBERG. I am happy to go first. Thank you for the question. I would be—started in this role on January 11th. I don't know the actual day that the 210 days expires, but it would be 210 days after January 11th.

I do want to continue to stay in this role. I will leave it to the White House to make any personnel decisions and announcements.

Mr. DENHAM. Mr. Butters?

Mr. BUTTERS. Thank you, Mr. Chairman. My appointment as—I have been serving as a Deputy Administrator since November of 2010. My appointment as Acting Administrator began October 5th of last year. I don't know the exact date of the 210-day period, but it is—it will be coming up fairly soon.

And I—along with Administrator Feinberg, I defer to the White House, in terms of determining how they want to proceed, in terms of filling this position permanently.

Mr. DENHAM. Have you started the vetting process?

Mr. BUTTERS. I have not.

Mr. DENHAM. Ms. Feinberg?

Ms. FEINBERG. I have not.

Mr. DENHAM. Thank you. Ms. Feinberg, in Politico it was quoted—you were quoted as saying, "We are running out of things that I can—we are running out of things that I think we can ask the railroads to do." Would you like to clarify that statement?

Ms. FEINBERG. Sure. Thank you for the question. Actually, I believe Politico quoted me accurately. It was some individuals in the

energy industry who then followed up and quoted me somewhat inaccurately—or selectively, I would say.

What I said was, "We are running out of things we can ask the railroads to do. They have gone above and beyond what we have asked them to do. That said, we will continually ask them to do more to improve safety." This was in reference to the various actions that we have taken while we have been working on the crude-by-rail rulemaking. We have taken, I believe, 24 interim safety measures. We have issued emergency orders, we have issued safety advisories, we have come to voluntary agreements with the railroads to increase inspections, implement speed restrictions, implement braking systems. And that is what I was referring to.

Mr. DENHAM. Thank you. And in Modesto one of the questions that came up amongst many others was actually keeping trains on the tracks. Are there new technologies available that could do a better job of identifying track integrity problems?

Ms. FEINBERG. There are. The ATIP is the—what we have found to be the most effective new technology. This is a system that moves along the rails, and the track, and does, for lack of a better term, an x ray of the track. We have asked for additional funding in our budget to expand that program.

Mr. DENHAM. Have you prepared an inventory of different technologies that are out there, so that——

Ms. FEINBERG. I believe that we have an inventory of different technologies that are out there. I don't have it on hand, but we would be happy to come back to your committee and provide it.

Mr. DENHAM. Thank you. And which have you tested already?

Ms. FEINBERG. I am sorry?

Mr. DENHAM. Have you tested any of them already?

Ms. FEINBERG. I believe some have, but we can come back to you with what has been tested and what hasn't.

Mr. DENHAM. Thank you.

Ms. FEINBERG. Many items—I am sorry. Many items have been tested outside of the FRA, as well. We can provide you with that, too.

Mr. DENHAM. Thank you. My time has expired. Mr. Capuano.

Mr. CAPUANO. Pass to Mr. DeFazio.

Mr. DEFAZIO. No, go ahead. OK. Thank you. Thank you, Mr. Chairman.

To Mr. Butters, the—on pipelines, one of the mandates from the 2011 Act was to deal with shutoff valves. And my understanding is that you sort of bifurcated the process, and you adopted a number of rules looking—or two different rules, one looking at shutoff valves and other issues that would go to liquids, and one that would go to gas.

And it is my understanding, further, that, I guess, the—let's see, I am getting them confused, but I think the liquids went to OMB in May 2014. Is that the one that went to OMB? And then one of them is sitting on the Secretary's desk. How long has it been sitting on the Secretary's desk? And when might we expect OMB to regurgitate the rule?

Mr. BUTTERS. Congressman, the gas safety rule is currently within DOT. We are working with our—with DOT to address questions. We are working vigorously to get that rule wrapped up and get it

over to OMB. I can't give you an exact date, but rest assured this is a high priority, and we are working with them daily to address some of their issues that they have raised, as we conduct the cost-benefit analysis, et cetera.

The liquid safety rule is currently at OMB. We have been, again, working with them closely, and I believe we are very close to having that rule out. But, again, I can't provide you with any specific date at this point.

Mr. DEFAZIO. OK. And Chairman Hart, I just want—after we chatted about your new recommendations on the tank cars, I did talk to OMB yesterday, to Mr. Shelanski, and he said you can call him any time and express your concerns. I did express them for you, and he, of course, is totally opaque, but we are going to have something soon, and we are going to be pleased with it. So——

Mr. HART. Thank you very much.

Mr. DEFAZIO. I hope that makes you feel good. It doesn't make me feel good. I think we need to change the way OMB works. A little more transparency, and perhaps some timelines would be useful, particularly on things that are considered a very high priority. That is not an issue at today's hearing.

Lithium batteries. Chairman Hart, how do you feel about lithium batteries on airplanes? You have some concerns that Congress has said we can't go beyond the ICAO cardboard box standard?

Mr. HART. Thank you for that question. Yes, we do have concerns. We have viewed ourselves as a world leader in aviation, and oftentimes we go beyond what ICAO, the International Civil Aviation Organization, requires. A most recent example is that we require a second person in the cockpit when one of the pilots leaves. That is not an ICAO requirement, and it is not a world requirement. That is just an example of where we want to view ourselves as world leaders, to push the bar, to move the bar on safety.

Mr. DEFAZIO. But Congress saying we can't exceed international standards, you think that is a problem, and Congress should lift that prohibition?

Mr. HART. We are concerned about the United States being limited to what ICAO does, yes.

Mr. DEFAZIO. Administrator Butters, would you feel that we should go beyond the ICAO standard on—and Congress should lift the prohibition so people can review the transport of lithium batteries on aircraft, particularly passenger aircraft, where people are sitting above it, and they don't even know it?

Mr. BUTTERS. We agree that the limitation to the ICAO technical instructions is a problem. Lithium batteries do pose transportation hazards, and the ability for the U.S. to promulgate more stringent safety regulations is something that we are certainly interested in doing.

Mr. DEFAZIO. My understanding is there has been some dispute over this issue over the years, and this is one of particular concern to me. It is only a matter of time until we lose another plane. We have lost a couple of cargo planes. Could be a passenger plane, a combi carrier, it could be another cargo plane.

So, you know, the FAA feels they have the expertise. There was a dispute a number of years ago, and the FAA prevailed, and they were sent to ICAO. They don't seem to have been able to move

ICAO. My understanding is that person is retiring, and now we are back into a discussion of who would better represent the views of the DOT for more stringent standards. Do you think that PHMSA would push for regulations beyond the ICAO standard, if you were the representing——

Mr. BUTTERS. Well, the dangerous goods panel, which we and FAA participate on—we work very closely with our colleagues at FAA as related to transportation of hazardous materials and dangerous goods by air—we would want to have the most effective and knowledgeable representative in that seat. But I think the important thing to understand is that, as DOT, we work with each other, FAA, as well as—as it relates to dangerous goods in transportation, our other modal partners, to make sure that these hazmat regulations and danger goods regs are as stringent and strong as possible.

Mr. DEFAZIO. OK, thank you.

Thank you, Mr. Chairman.

Mr. DENHAM. Thank you, Mr. DeFazio.

Mr. Barletta, you are recognized for 5 minutes.

Mr. BARLETTA. Thanks. Thank you, Mr. Chairman. I think we all agree that, in discussions about crude-by-rail and rail safety in general, track maintenance is absolutely critical.

Now, the Class I railroads, they have better access to capital to be able to finance their investment in track maintenance. And the smaller railroads, like the many short lines that operate in my district, do not have the same access to capital.

Administrator Feinberg, based on your Web site, FRA has not approved the short line railroad RRIF loan in over 3 years. As I understand it, helping short lines rehabilitate their track was one of the primary purposes of this program. Why isn't it working?

Ms. FEINBERG. Thank you for the question. It is good to see you again.

We are actively working to make the RRIF program much more accessible to applicants. So, in particular to short lines, as we have looked at the program, particularly over the last several months, and under the guidance of Secretary Foxx, we would like to be more creative, and make the program much more accessible to all applicants, including short lines.

Mr. BARLETTA. How many short line applications are currently being processed?

Ms. FEINBERG. I don't know the exact number. We can get back to you. I know that there are several pending.

Mr. BARLETTA. And also, if you could, see how long they have been in the application process, as well.

Ms. FEINBERG. Absolutely.

Mr. BARLETTA. You and your agency have publicly stated that most railroads will be unable to meet the December 31, 2015, deadline to implement Positive Train Control. Do you plan on fining railroads that do not have PTC systems implemented after that date, if the current law does not change?

Ms. FEINBERG. We are in—having internal discussions now, and also discussions with members of this committee and other Members of Congress about how to proceed. You are right, the PTC deadline, the congressionally mandated deadline, is December of

2015. Most railroads—in fact, I think all railroads—have said that they do not believe that they can meet that deadline. We believe that there is a path forward that involves meeting with railroads, granting provisional authority as PTC starts to come online. But we are in the middle of those discussions now.

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

Furthermore, a white paper from FRA stated using vapor pressure as a metric to identify potential hazards may not prove effective when considering real-world accident conditions. Do you agree with your own agency's reports?

Ms. FEINBERG. I think what both of those items, both of those papers, show us is what a complicated issue this is. The DOE report was very specific about how there is no single component that tends to lead to an incident being worse than another component. The white paper from FRA talked about crude and ethanol both being very dangerous flammable products that are risky to transport by rail.

The issue is we need more industries and more people involved in this conversation, and more industries with skin in the game. If the DOE and other agencies want to continue to investigate volatility and an appropriate decrease in volatility, and what that could lead to, in terms of safety, we are supportive of that, and we are working closely with them. The point is that this can't just be on one industry, or just one agency, to regulate and to bring—and to make this product, the transfer of this product, safer. This is something that should be governmentwide, and that we should have more industries involved in.

Mr. BARLETTA. Thank you. Thank you for testifying.

Ms. FEINBERG. Thank you.

Mr. BARLETTA. Yield back the balance of my time, Mr. Chairman.

Mr. DENHAM. Thank you, Mr. Barletta.

Mr. Lipinski, recognized for 5 minutes.

Mr. LIPINSKI. Thank you, Mr. Chairman.

Ms. Feinberg, as you know, Metra is important in my district, in the Chicago region, and you had just mentioned PTC, so I just wanted to again bring up the fact how difficult it is for—especially commuter rail—to have the funds necessary to put PTC in. And I know Metra is looking at the RRIF program for that, and I think it is something that we have talked about. Like to see more of a focus on that, and it would be great if you can come to Chicago some time, in the suburbs, to get a tour and see some of the great capital needs that Metra has. I appreciate if you could do that at some time.

Ms. FEINBERG. I would be happy to. I would be happy to.

Mr. LIPINSKI. I want to focus first on rail safety. And, Mr. Butters, I live in a district that has, I often claim, more rail lines than any other district in the country. No one has come forward and disputed that, and so I still will claim that. But I know how—you know, I have oil trains moving through my district. In fact, moving

less than a mile from my home. And so it is critically important to me, too, that we focus on safety.

I wanted to—since we already touched on the tank cars, I wanted to talk about the HM–ACCESS [Hazardous Materials Automated Cargo Communications for Efficient and Safe Shipments] program, which is moving forward, and you expect to report on results of the pilot program by October of 2015, I understand. Is that correct?

Mr. BUTTERS. Yes, sir. That is correct.

Mr. LIPINSKI. And this is essential technology for our first responders. And I am very interested in making sure that we move forward so the first responder doesn't have to board a locomotive to find the manifest in the case of an emergency.

So, this Congress I introduced a bill to establish a working group that would devise a voluntary standard. And I am looking forward to PHMSA's report in the fall. Given that the Association of American Railroads and UPS are moving forward with their own forms of electronic shipping papers, I am wondering if you plan to incorporate their experiences in the report into any recommendations found in that report.

Mr. BUTTERS. Thank you, sir, for that question. And the answer is we will certainly take a look at that.

And, as you may know, as an emergency responder myself, a former fire chief and chairman of the Hazardous Materials Committee for the International Association of Fire Chiefs, the whole notion of electronic shipping papers and electronic information to emergency responders is something that I have been—had high on my priority list back in the days when I chaired that committee.

So, we believe that those systems are critical. There is no sense in exposing emergency responders to delay or any excess risk by having to retrieve documents out of a locomotive, out of a cab of a vehicle, or anything else, particularly now, when most of these documents exist electronically at some point.

We are in the midst of the HM–ACCESS program, which is pilot testing the feasibility. We also are aware that the railroad, through a number of different systems, operations—respond through CSX and others, are also making this information available. I can assure—I can tell you that, as an emergency responder, I don't want to try to have to figure out, by carrier, how to get to their data. Having a consistent, seamless system is what we are going to be looking to do. And where we can marry those platforms together so that emergency responders really can—have to go to either one app or one place to get this information quickly, that is our goal.

Mr. LIPINSKI. Great. I want to move on in my last minute to pipeline leak detection. Also have a tremendous number of pipelines running through my district.

I know in October 18, 2010, PHMSA published the advanced notice of proposed rulemaking on the safety of onshore hazardous liquid pipelines. I think we touched a little bit on that already. PHMSA expressed its intent to strengthen requirements for pipeline leak detection, emergency shutoff valves, and protecting high consequence areas. I understand that PHMSA has completed a proposed rule, but 4½ years after the initial notice, the proposal is stuck at OMB. Ranking Member DeFazio had touched on this.

Now, I just wanted to ask, while we wait on that rule, I am interested what else can be done for leak detection purposes, and has PHMSA considered working with the FAA and private stakeholders to use unmanned aerial systems to help with monitoring?

Mr. BUTTERS. Thank you for that question. Through our R&D program, we have been very active in developing and funding to operationalize new technologies to address those very issues. So, the answer is yes, we are working with the industry, encouraging them to adopt and implement technologies out there now that can be operationalized to help improve leak detection and reduce the risk of pipeline, and better understand what those risks are.

Mr. LIPINSKI. In terms of UAS?

Mr. BUTTERS. The unmanned aerial systems is a technology that we have actually funded a couple of years ago. A number of industries are now taking another look at that. I believe it shows great promise, by—able to put sensing technology under these devices to better detect leaks along pipeline systems, and a number of pipeline operators are utilizing this—that technology, as well.

Mr. LIPINSKI. Thank you.

Mr. DENHAM. Thank you, Mr. Lipinski.

Mr. Mica?

Mr. MICA. Thank you, Mr. Chairman. Thank you for holding this hearing. And it is important. You know, we passed PRIIA authorization and had a number of items in there relating to safety and trying to improve our freight rail system, passenger rail system. That was 2008, and we are working on the reauthorization.

The pipeline bill just reminded me today when Mr. Ranking Member had said it was 2011 and had Mr. Shuster do that bill back then as a committee bill. That is 4 years ago, and not much has been done.

One of the things that concerns me, it takes a long time to retrofit some of the equipment. Since President Obama has vetoed the pipeline bill, and we had safety measures in the pipeline bill on which we still haven't had action by the administration, but since the veto of that I have seen at least two horrible incidents of accidents transporting crude. And it—we have lost 4 years now. It is going to take some years to retrofit.

Let me ask Mr. Butters. The amount of time it would retrofit—take to retrofit cars—I understand your rule would propose that car standards would affect 66,000 cars, approximately. Where are we in that process now?

Mr. BUTTERS. Well, as we have mentioned, the final rule is currently at OMB. Part of that provision does and will address not only new car specifications, but retrofit specifications. As you know, there are a number of varieties, if you will, of the DOT–111 car, the legacy car, which poses the highest risk in their other——

Mr. MICA. So there is actually—no cars have been retrofitted, because there is no rule in place, or no cars under a rule, since there is no rule. Is that correct?

Mr. BUTTERS. There is no—the new specification has not been published yet——

Mr. MICA. So of old cars, how many do you think were retrofitted by the industry?

Mr. BUTTERS. I don't have the exact number. I certainly can provide that to you.

Mr. MICA. I mean are we looking at dozens? Hundreds?

Mr. BUTTERS. Thousands.

Mr. MICA. Thousands? By the industry? And they still—and, potentially, you could affect as many as 124,000 cars. Is that correct?

Mr. BUTTERS. I don't know the exact number, but I will take your point there on that number——

Mr. MICA. The industry estimates it is going to take 10 years to retrofit the 124,000 cars that are affected. How many cars are they producing a year, new ones?

Mr. BUTTERS. I don't know the exact number. I can provide that to——

[The information provided by the Pipeline and Hazardous Materials Safety Administration can be found on page 156.]

Mr. MICA. Can you guess? One thousand, two thousand, somebody? There is a lot of highly paid staff there for backup.

Ms. FEINBERG. I think he just looked at me for backup. Thousands are produced each year, you are correct——

Mr. MICA. And they are produced to what you would consider your proposed rule standard.

Ms. FEINBERG. Well, right now——

Mr. MICA. Going to be——

Ms. FEINBERG [continuing]. Most of the backlog of new cars is jacketed 1232s. So that would be the standard the industry came up with several years ago, plus a jacket. The new standard is what is included in the rule, which should be finalized in the coming weeks.

Mr. MICA. OK.

Ms. FEINBERG. And then there will be a retrofit schedule in that rule.

Mr. MICA. Unless you are, again, on another planet, there have been a lot of incidents in which you have had these railcars derail for whatever reason, explosions, loss of property, life, whatever.

Mr. Hart, is—are you aware of additional inspections since now we are moving so much of this crude that is going on? What do you see—you have to investigate some of these instances. Is the Department doing an adequate job? Should we be doing more? They don't have a rule in place, and it sounds like it could be years, 10 years, before they can get these cars retrofitted at the rate we are going.

Mr. HART. Thank you for the question. Of course, the retrofit is just part of the total solution. We also want to keep the train on the track in the first place, and then have informed emergency responders.

But regarding the retrofit, we are encouraged to see the industry move ahead of the rule, because it is obviously risky, to use a new car and not know if that car will comply with the rule when it comes out.

We are also encouraged by an experience about 20 years ago, when the retrofit of DOT–112 tank cars occurred, and they managed to do that in a much shorter timeframe than the 10-year retrofit we are talking about. We don't think 10 years is realistic. We think it can be done much sooner——

Mr. MICA. But, again, my question—you are the inspector. You see this afterwards. Is there more—are there more safety inspections now—we have more crude moving. What do you see? You are the expert.

Mr. HART. We see activity in all three of the fronts regarding keeping the train on the track, regarding more robust cars, and regarding informing first responders.

Mr. MICA. So there is some positive——

Mr. HART. There is some positive movement in all three fronts, yes.

Mr. MICA. Thank you.

Mr. DENHAM. Thank you, Mr. Mica.

Ms. Brown?

Ms. BROWN. Thank you, Mr. Chairman. I want to go back to the RRIF loan program.

Administrator Feinberg, my question—and I don't understand what is the problem. It was—it has been a problem with the past administration, and it is a problem with this administration. We have had numerous hearings, bipartisan. We want the RRIF loan program to work. What is the problem?

I mean, in Florida we have the All Aboard Florida pending, been pending for months. We have had hearings where we have brought in individuals that have applied for a loan. It is very expensive. What is it we, as a Congress, need to do to get—I mean billions of dollars, authority, but no programs going out the door.

Ms. FEINBERG. So we would—we agree with you. Secretary Foxx has said that it is his goal that all of the money in the RRIF program should be loaned out by the time his term is over. I——

Ms. BROWN. How much money is in the program?

Ms. FEINBERG. About $35 billion.

Ms. BROWN. $35 billion?

Ms. FEINBERG. Yes, ma'am.

Ms. BROWN. That would put a lot of people to work, and move the communities.

Ms. FEINBERG. We agree. We are—we have several loan applications that are pending now. We are working through those as quickly as possible.

I think, in the past, there has been a high bar that applications—that applicants need to reach in order to ensure that taxpayers will be paid back for those loans. Absolutely agree that taxpayers have to be paid back for those loans. I think the impetus is on us to make sure that we are working closely with applicants, so that they have access to those loans and to that amount of money, but also ensure that taxpayers will get paid back.

Ms. BROWN. Well, we all agree with that. But it just seems as if it is some problem, that we don't want to do these particular types of loans.

Ms. FEINBERG. We do want to do the loans. In particular, it has been a huge focus of mine for the last several months, and of Secretary Foxx's for the last year. I think, in the past, another issue that has—short lines, in particular, have run into is that they have—they are probably more in need of the loan than other railroads, yet it is very difficult for them to reach the credit risk pre-

mium level. And that is why we are trying so hard to work with them.

And I would add that, in the GROW AMERICA Act, which we have sent to the Congress, we have some suggested tweaks to the program that might assist short lines in getting these loans.

Ms. BROWN. Well, we are definitely looking for what we can do to help the short lines be able to participate in the program.

Mr. Butters, what is the problem with the pipeline regulations? You know, there are some commonsense tweaks, things that need to happen. Why is it not moving forward?

Mr. BUTTERS. Thank you, Congresswoman. We are placing a very high priority on both the liquid and gas rulemaking. The liquid rule is currently at OMB, and we are working through that process as quickly as we can.

As you know, we—there is a process that we have to follow with any rulemaking. And the gas rule is currently still within the Department of Transportation. And we are—got full-court press to try to get that rule out, as well. We are very cognizant of the urgency of both these rules, and we are working through these issues as quickly as we can.

Ms. BROWN. Is it anything we in Congress can do? Because we are very concerned about the problems that are out in the community, making sure that the communication is there, that all of our stakeholders know what is in the containers. I mean—so it is a team effort. Is there anything we can do to expedite it so people know exactly what is the rule and what they need to do?

Mr. BUTTERS. Well, as you know, we are bound by the process. And I know that is frustrating for many, that it takes a long time. I can't really advise on what Congress can do to expedite that. All I can say is that we are working as quickly on all fronts on all of these regulations to get them through. We know how important they are to the safety of pipelines, the safety of rail transport, flammable liquids. And, again, we are vigorously working on these, and trying to get them out quickly.

They are complicated rules. There are a lot of moving parts to them. Developing cost-benefit analysis based on historical risk is often a challenge. But we are working with our colleagues to try to get these things through.

Ms. BROWN. Thank you. And I want you to know failure is not an option. This is something that we got to get done quickly. Thank you. I yield back the balance of my time.

Mr. DENHAM. Thank you, Ms. Brown.

Mr. Rice?

Mr. RICE. Thank you, Mr. Chairman, and thank you to the members of the panel for being here today. I have learned a lot.

I want to start with you, Mr. Hart. Is it safer to transport flammable liquids by pipeline or by rail?

Mr. HART. Thank you for the question. We are asked that a lot, but it is actually difficult to make cross-modal comparisons. People ask me, "Is it safer to drive than fly?" And there are lots of ways you can do the statistics. You can come up with either answer. It is really apples and oranges, and it is very difficult to compare and say one is safer than the other.

Mr. RICE. All right. The trend in traffic by rail, is rail traffic increasing, decreasing? Is it stable?

Mr. HART. I can't speak to general rail traffic. What we are most focused on is rail traffic of ethanol and crude, those two substances. Ethanol has gone up at least by a factor of four in the last several years. Crude oil has gone up a factor of 40 in the last 5 or 10 years.

Mr. RICE. Ms. Feinberg, is general rail traffic increasing, decreasing, stable?

Ms. FEINBERG. Increasing.

Mr. RICE. How much?

Ms. FEINBERG. I don't know the actual percentage, but it——

Mr. RICE. Has it doubled in the last 10 years?

Ms. FEINBERG. Crude and ethanol, certainly. But just general——

Mr. RICE. Just general——

Ms. FEINBERG. Just general trains on the tracks, I don't know if it has doubled. I would doubt it.

Mr. RICE. All right. Tell me about the trend in—well, first of all, the status of the rail infrastructure. Are the tracks generally—are they getting better? Are they getting worse? Are they in desperate need of repair? Are they—is industry reinvesting enough? What is your opinion?

Ms. FEINBERG. The track—the rail infrastructure is generally burdened by significant congestion. The rail industry has said that they are investing multiple, multiple billions of dollars in fixing, repairing, replacing track, generally.

Mr. RICE. They say it? Do you not know? Are they doing that? Or you say——

Ms. FEINBERG. No, no, no. I am sorry. They are doing it, and they have also said that in the coming year they will reinvest X billions——

Mr. RICE. So you think the status of the existing rail infrastructure is adequate?

Ms. FEINBERG. No, I don't. I think that it is burdened, and needs significant attention and repair. I was just answering that the rail industry has said that they are going to reinvest in it.

Mr. RICE. OK, all right. How about the trend in accidents on rail? Is it—are we seeing more and more accidents? Are we seeing more and more lives lost? Or is the trend in accidents improving?

Ms. FEINBERG. The trend in accidents is generally improving. The 2014 accidents were actually down. I think, in terms of grade crossing incidents, we are actually seeing those tick up a little bit in the last year or so. But of course, the rail accidents that we are seeing have been dramatic and attention-getting, because they tend to involve crude and large——

Mr. RICE. OK. So, despite the dramatic increase in flammable liquids on rail—and you say 40-fold—and despite the fact that general rail traffic has increased significantly in the last 10 years, we are still seeing a decline in accidents?

Ms. FEINBERG. Yes, sir.

Mr. RICE. To what do you attribute that?

Ms. FEINBERG. Increased inspections, increased safety measures.

Mr. RICE. OK. Mr. Butters, tell me about the trend in pipeline volume. Is the volume in pipelines increasing? Is it stable? Is it decreasing? Tell me about that.

Mr. BUTTERS. Well, more pipelines are being built every year, both on the transmission side, as well as gathering production lines. So that is increasing, particularly in light of the energy renaissance that we are experiencing with shale, oil, and gas production. It is growing rather significantly.

Mr. RICE. Mr. Butters, do you have an opinion on the safety of transmission of flammable liquids, pipeline versus railroad?

Mr. BUTTERS. Well, I agree with Mr. Hart, they are both safe modes of transportation. Our role is to ensure that those hazardous materials, whether—regardless of the mode that they are transported on, are done in a safe way.

Mr. RICE. That was a really good nonanswer. Pipeline versus railroad.

Mr. BUTTERS. Again, it—two separate modes. Both of them are——

Mr. RICE. Which one is safer, in your opinion, pipeline or railroad?

Mr. BUTTERS. They are—both have demonstrated strong safety records.

Mr. RICE. You said that you were trying to hire 120 people earlier, right? And you hoped to have that done by the end of the year. How many people work for you? How many people work at—what is the name of the——

Mr. BUTTERS. PHMSA, the Pipeline and Hazardous Materials Safety Administration. We have slightly shy of 500 staff, both here in headquarters, as well as in our 10 field offices.

Mr. RICE. How long have you been trying to hire 120 people?

Mr. BUTTERS. Well, we were authorized in December of this year, so we have been working pretty vigorously since December. We have hired about 30 percent of those vacancies. We had about, on a pipeline program, 145 positions, and nearly all of those have been filled.

Mr. RICE. I have one last question, and then I will shut up.

You said you have very high priority on liquid and gas rulemaking for pipelines, very high priority.

Mr. BUTTERS. Yes.

Mr. RICE. How long you been working on that with very high priority?

Mr. BUTTERS. We have been working on those for several years.

Mr. RICE. What—how long does it take for something with low priority?

Mr. BUTTERS. Pardon me?

Mr. DENHAM. Mr. Larsen?

Mr. LARSEN. Thank you, Mr. Chairman. I know that over the next year the railroad industry has said they are going to invest $29 billion: $13 billion in repair and $16 billion in new capital. Some time last week, Burlington Northern Santa Fe notified its customers of some operational changes that they are going to make, including reducing speeds on key trains from 50 to 35 in heavily populated areas, increasing track inspections, eliminating the use of DOT–111 cars from service within 1 year, and

unjacketed 1232s within 3 years, and decreasing the threshold on wayside detectors to increase detection and removal of defective railcars.

So, the question is—and it is not to trumpet BNSF necessarily, but if BNSF is doing it, why can't other railroads do this? Why can't PHMSA mandate that kind of aggressive action, as well? And is that what we expect to see? And this would be for FRA, as well.

Ms. FEINBERG. Sorry. We know about BNSF's recent announcements. We are supportive of them. Not all railroads are functioning the same geographic area, functioning with the same kind of traffic, and carrying the same kind of product, so there are differences of opinion in the rail industry about those. But we are hugely supportive of the recent announcements they have made, and I believe they make a lot of sense.

Mr. LARSEN. Yes, that is fair. That is fair. So, for Ms. Feinberg, the Association of Washington Cities approached me with a proposal for improvements at at-grade crossings. We are going to work on some legislative language, see if we can get that in our—in the surface bill.

But FRA has looked at at-grade crossing improvements, as well. Can you cover a little bit about how you define at-grade crossing improvements, and what that might mean for safety?

Ms. FEINBERG. Sure. So the first thing that we try to remind people of is that the safest crossing is no grade crossing at all. It would actually be the rail being completely separated from pedestrians and from vehicular traffic.

Because of recent incidents—the Metro-North incident, the Amtrak incident, and the Metrolink incident—we have taken a fresh look at grade crossing safety, generally. This is a very old problem, but one we think deserves some fresh thinking. So we have announced that we are implementing an enhanced campaign to improve safety at crossings. We have started with the partnership with law enforcement to increase enforcement at crossings for those drivers that are trying to actually beat the train.

But that is not the only problem at crossings. We have also got an awareness problem, so we are working on that. And we are also hoping to announce some new technologies in the coming months that would also assist with safety.

Mr. LARSEN. All right. Look forward to that.

Mr. Butters, how has the Canadian direction on tank car design impacted PHMSA's process and rulemaking?

Mr. BUTTERS. Thank you for that question, sir. We have been working very closely with our counterparts in Canada to ensure that these safety regulations are harmonized to minimize any disruption in cross-border movement. We are hoping that, as we approach the finalization of this final rule, we will both be able to jointly announce our regulations.

Mr. LARSEN. Is that adding to time, or adding to the delay, or is it everything else that is adding to getting this rule out in a more timely manner?

Mr. BUTTERS. Our discussions with Canada have not affected how our rule is working through the process here.

As you know, the Canadian governmental process and the U.S. governmental process are—have different gates to go through. Canada doesn't have the processes that we go through.

Mr. LARSEN. OK. You mean the excellent process that we have.

Finally, for Mr. Butters, I have a letter from the State of Washington Citizens Advisory Committee on Pipeline Safety. It is from December 30, 2014. It is actually directed to your boss, Anthony Foxx, but it lists six particular rules on pipeline safety that they wanted to hear about, what the process is.

You have covered liquid and gas, and there are three others. And I don't want to have you answer the question where you are on the process for the other four in this setting. Do you have this letter? Do you know of this letter?

Mr. BUTTERS. I believe I—we have seen that letter, and it is a—a response is being prepared. But we would be happy to, obviously, respond to those specific questions to you directly, as well.

Mr. LARSEN. Great. We will follow up with you directly on that, to see where PHMSA is on a response. Again, it was December 30th, so we are 3-plus months beyond that. And I know you are busy on a lot of things, but these are our folks, I think the only Governor-appointed citizens advisory committee in the country. We created this process as part of the 2002 Act. And so, hopeful that you can be responsive as quickly as possible.

Mr. BUTTERS. Absolutely.

Mr. LARSEN. Thank you very much.

Mr. DENHAM. Mr. Hardy?

Mr. HARDY. Thank you, Mr. Chairman.

Ms. Feinberg, Mr. Butters, Mr. Hart, thank you for being here. I have read your testimonies, and I have got to be quite blunt. I know there is a lot going on. I know that crude rail has increased over the last few months. But when it comes to rulemaking, I see in here a lot of activity, but I don't see a lot of results.

As a Member of Congress, I know that legislation can be slow-moving. But our rulemaking process seems to be far behind. A bill was passed back in 2011, the Pipeline Safety, Regulatory Certainty, and Job Creation Act. It was enacted in 2012. There were 48 mandates from Congress for the agency that bills itself on focusing on the safe movement of hazardous materials. Out of the 48 mandated, only 23 are completely. Sadly and shocking, this act is about to expire in a few months.

So, let me ask this question. How are we supposed to have a comprehensive conversation about this act with less than half of the mandates finished? And how can we look to authorize this act? Either one of you can answer that.

Mr. BUTTERS. Well, we are—have been working very diligently to address these mandates. Obviously, some of them are more complicated and require data and research and—to make sure that we are getting them right. That takes time.

I am not here to apologize for that process, but we are very cognizant of the importance of these, and we are working through to get them completed as quickly as we can.

Mr. HARDY. Thank you. And I have also read your testimony. I would like to run by a couple of quotes. Mr. Butters, you state, "To date, the Office of Hazardous Material Safety has finalized four of

the six regulatory actions required under MAP–21." In another quote you say, "PHMSA had implemented all but one of the mandates from the Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006."

Ms. Feinberg, you state that "Rail Safety Improvement Act of 2008 mandated that FRA, as the Secretary's designee, complete an unprecedented 43 discrete tasks...Today, FRA has 10 remaining RSIA-mandated, nonperiodic items left to complete."

I have one simple question. What is going on with our rulemaking? We are looking to reauthorize a very important piece of legislation before all the rules. Can you help me walk through where the train is running off the tracks, so to speak, here?

Ms. FEINBERG. Sure, Mr. Hardy. I mean, to be clear, I think that we have a function in the regulatory process that exists. And it is not built for speed. I wish that it was. And no one is more frustrated by our regulatory process and how long it takes than I am on occasion.

But if we are trying to govern and regulate as quickly as we possibly can, the regulatory—the rulemaking process is not the way to do it.

Mr. HARDY. Would you agree that you maybe need to do something, then? Because we should be built for speed. We should be built for safety. That is the obligation of this Congress, to make sure that we implement rules and regulations that help make the public safer. That is one of our constitutional duties.

So, can somebody help me tell you—tell me where we are going wrong, as a Congress, and where we are going wrong, as Administrators?

Ms. FEINBERG. I agree with you 100 percent that we should be built for speed, and that we should be able to be more efficient when we are trying to make the system safer. But there are nine different steps in the U.S. regulatory process, and I wish that we could move through them quicker, and in a more efficient way. But the reality is that if we want to be truly efficient, we would end up regulating by emergency order, or the Congress would direct us in certain ways.

Mr. BUTTERS. Sir, if I might add, the other aspect of this is that there are a lot—many of these rules affect a lot of stakeholders. And we have to—when we put rules out for comment—for example, we got 30,000 comments on the rail rule, alone. We have to go through all of those to ensure that we understand where each of these stakeholders are coming from, and take into consideration how they affect those industries. And that does take time.

Mr. HARDY. I have just a few seconds left, but, you know, in the private sector, where I come from, we have to communicate with all sides. Is the administration communicating with congressional committees on these issues? Are we coming up with better mousetraps?

You know, I have to work with the engineers, the architects, every direction that I go, in order to get a project done on time. And it is sometimes a challenge, but it is done right, it is done safe, and it is done to protect the public at the end of the day, in a whole lot more efficient time. We need to be—start that communication somewhere. Has to—something has to change here.

Thank you, Mr. Chairman.

Mr. DENHAM. Mr. Sires.

Mr. SIRES. Thank you, Mr. Chairman.

Thank you for being here. You know, I represent an area that is very densely populated. You know, just to give you an example, Hoboken, New Jersey, is 1 square mile, has about 51,000 people. And I see in the Wall Street Journal today that FEMA, they put the—devised a scenario where they made an explosion, and they—they didn't make the explosion, they prepared the officials for any kind of accident that happens. And they work with the administration of the city of Jersey City and surrounding areas.

I was just wondering, if FEMA comes up with suggestions on how to fight an accident like this, do you coordinate with FEMA? Do you—do they talk to you and say, "Look, this may be"—as they go through these urban areas, this—"I think this regulation may improve us in fighting this accident?"

Ms. FEINBERG. Yes, sir. We coordinate with FEMA regularly, also with the NFC, DHS, and the entire apparatus that would respond to an incident like that. And in this specific instance, we coordinated with FEMA and FRA participated—I believe PHMSA did, as well—participated in the exercise.

The exercise you are referring to was a tabletop exercise that would help train and practice responding to a significant crude-by-rail incident in a very populated area.

Mr. SIRES. So, if they make a suggestion, you will act on it.

Ms. FEINBERG. I am sorry?

Mr. SIRES. If they make a suggestion, you will act on it?

Ms. FEINBERG. Yes, very much. I mean we are not necessarily the first responders, but we will coordinate with FEMA to ensure that we are assisting.

Mr. SIRES. And the other area of New Jersey is obviously—there are a lot of pipelines under New Jersey. And a few years ago, in Linden, New Jersey, there was a big explosion, 1,500 people—evacuate. And I know that the railroad industry is investing a great deal of money in repairs and capital. I was just wondering if the pipeline industry is doing something similar.

Mr. BUTTERS. Well, under Federal regulations—and our Federal regulations have to be adopted by States for enforcement in those distribution lines, and intrastate lines that the State oversees. So there are—there is consistency, in terms of pipeline safety, which specifies frequency of inspections, how they should be inspected.

And, again, depending on the age and type of pipeline we are talking about, the best way to inspect for safety is using internal—what we call pinging devices, in-line inspection devices. But some pipelines, because of their age or their—the nature of their construction, are not well-suited to those. So the operator has to choose other means of inspecting to ensure that they are safe. And again, it depends on——

Mr. SIRES. But does the industry do it on their own? You know, let's say we have a pipeline that is 50 years old. They say, "Well, this may have to be replaced." I mean do they go out and do it? Or—because I assume that the railroad industry, when they see a track that is not safe, they go out and do it.

Mr. BUTTERS. Yes, the operator is required—and it is the responsibility—again, depending on the pipeline, if it is a—if it is overseeing or regulated by the State, the State safety agency ensures that that operator is complying with those regulations. And if it is an interstate transmission line, it falls under PHMSA's jurisdiction to ensure those operators are doing what they are supposed to be doing. That is why we have inspectors out there that—every day they go and either audit companies, operators, to look at their inspection records, or they do hands-on inspections themselves with those operators.

Mr. SIRES. And I see here that you processed 19,000 special permits and approval applications in 2014. And you are requesting to charge a fee of $700 to $3,000. What is that money going to be used for? Are you going to increase your—you know, your—many people, more people, inspectors, and——

Mr. BUTTERS. Well, there are a couple things that sort of address that issue. Some of these special permits can involve a complicated analysis that—the fee is intended to help recover the cost, to reduce the burden on the taxpayer and, really, the requesting organization, the shipper, the producer, would pay that fee.

We are also trying to reduce the number of special permits that are necessary, by looking at past practices and where special permits have been issued over—you know, year after year, that demonstrate a good safety record, by moving those into the—into our standard regulations, so that a special permit is no longer required, to make the system more efficient.

But the fee is intended to help offset the cost of processing these fees. As I said, some of them can be very complicated and extensive.

Mr. SIRES. Thank you.

Thank you, Mr. Chairman.

Mr. DENHAM. Mr. Babin?

Dr. BABIN. Yes, sir. Thank you, Mr. Chairman.

Ms. Feinberg, I have a question for you, first. You have recently called on the energy industry "to do more to control the volatility of its cargo." You may have seen a recent report from the DOE where the agency had found no data showing a correlation between crude oil properties and the likelihood of severity of a fire caused by a derailment.

Furthermore, a white paper from the Federal Railroad Administration stated "using vapor pressure as a metric to identify potential hazards may not prove effective when considering real-world accident conditions."

So, I would ask you, are you disagreeing with the findings of your own agency and your administration counterparts at the Department of Energy?

Ms. FEINBERG. No, sir. I am happy to take that question again. The DOE report that recently came out talked about a variety of different components that could affect a crude-by-rail incident: speed, volatility. The point of the report was that there is not one single component that can be changed that will affect the severity of the fire or the incident.

We agree with that report, and we are working closely with DOE as they do more research to determine what, if any, level of vola-

tility would be more useful for the product to come to, to increase actual safety. I don't think there is a disagreement in the industry or among—or between the agencies that decreasing volatility generally makes a product safer.

In terms of the white paper that came out from FRA, that was about flammable materials, and it talked about crude and ethanol both being flammable materials that are dangerous in incidents when there are derailments.

Dr. BABIN. OK, thank you.

Ms. FEINBERG. Thank you.

Dr. BABIN. I would ask you. Do you think it is safer to haul crude by rail or through a pipeline?

Ms. FEINBERG. I am sorry, is that for me?

Dr. BABIN. Yes.

Ms. FEINBERG. Yes, sir. Generally, I think that pipelines are safer, because I don't have to be responsible for them. I worry a lot more about the product that is being transported by rail.

Dr. BABIN. OK. Now, this question is for all three of you. If, according to the white paper—have there been any of these incidents, of all the incidents that we have had involving the movement of crude-by-rail, has crude ever been implicated as the causative factor in the accident? Do you know?

Ms. FEINBERG. No, sir. The product itself has not been found to be the cause of the actual incident.

Dr. BABIN. OK. Would you like to give an answer to that, or do you have the same answer, Mr. Butters?

Mr. BUTTERS. Yes. The product itself is normally not related to the cause of the accident in rail transportation. There may be a factor related to pipeline, if the product contributes to corrosion, for example, but inspections done properly will detect those.

Dr. BABIN. OK. Mr. Hart?

Mr. HART. Our experience is the problem is how the railroad is operated, the robustness of the cars, and the response by the responders, not the content of the tank cars.

Dr. BABIN. OK. Thank you very, very much. Appreciate it.

I yield back, Mr. Chairman.

Mr. DENHAM. Thank you, Mr. Babin.

Mr. Nolan, recognized for 5 minutes.

Mr. NOLAN. Thank you, Mr. Chairman. I have a couple questions for both Mr. Butters and Ms. Feinberg. I will try to be brief. And, if you will, too, we should be able to get them in.

My first question is, Mr. Butters, did you feel like you have the methods, the technology, to test the material integrity of the steel and the tubular goods that are going into pipelines around the country?

Mr. BUTTERS. Are you talking about testing the actual material——

Mr. NOLAN. I am not talking about—yes, I am not talking about the seams and the lines and brakes, but the actual integrity of the steel that is going into that tubular good. Quality does vary around the world, I have found. Having done a little business in that business——

Mr. BUTTERS. It—as part of our—on the pipeline side, as—part of our inspection program is to look at materials of construction, and ensure that operators are using——

Mr. NOLAN. Yes, that is not what I am talking about. I am talking about the material integrity of the steel that is in that pipeline. Not the construction and the weldings and the fittings and the bells and all the whistles. I am talking about the integrity of the steel.

Mr. BUTTERS. As part of our inspection process, we do look at the materials that are used for pipeline—the pipeline themselves, the steel itself.

Mr. NOLAN. And you have the technology to test the quality of that steel.

Mr. BUTTERS. We have the expertise, and we utilize available technology to determine the quality of that material, yes. That is part of our—in fact, as part of our investigations of pipeline accidents, we take the damaged segment of the pipeline and send it to a metallurgist to determine the causal factors related to the materials——

Mr. NOLAN. And that is after the fact you have an inspection prior to an accident or a disaster.

Mr. BUTTERS. Yes.

Mr. NOLAN. On the material integrity. You have the technology, and you have the methods, you have the expertise, that you can test the quality of the steel.

Mr. BUTTERS. Two ways we do that. We—through our own inspection, expertise of our inspectors, as well as looking at the records of the operator, and what materials they are using in those pipelines.

Mr. NOLAN. Well, I am told that, you know, you basically do rely on what the producer and the user supplies you, but that you do not have the technology to inspect the material integrity of that steel. Is that incorrect?

Mr. BUTTERS. I guess we will have to maybe talk about that more specifically, because I am not sure exactly——

Mr. NOLAN. Right, you told me you look at the records of the producers and the users. Well, that—I mean that is one thing. I mean that is—you know, what do you think they are going to tell you?

Mr. BUTTERS. Well, our inspectors are engineers. And so they do have experience in pipeline——

Mr. NOLAN. OK. Well, then, if you have done all this, do you find any difference in the material integrity between foreign steel and domestic steel?

Mr. BUTTERS. There are issues associated—yes, there are issues associated with the quality of pipelines that operators use.

Mr. NOLAN. OK, thank you.

Ms. Feinberg, with regard to bridges, you know, I come from the Land of 10,000 Lakes. Interestingly enough, with regard to the Keystone, you know, one of the arguments was—is that—in opposition to it was—is if we didn't have the Keystone Pipeline, the tar sands fields of Alberta wouldn't be developed. Somebody forgot to check, because that horse left the barn several years ago, and I have got 21 million barrels of oil coming across the border at International Falls from that area each year over a 100,000—excuse

me—over a 107-year-old bridge. And, you know, several dozen train loads.

And, you know, I read these reports in the New York Times and other places about all the 100,000 or more bridges. Do you have any idea or estimate of how many of these bridges are deficient, and what it might take, in terms of cost and inspections to get up to speed on this thing before we have a disaster?

The bridge I am talking about, you know, separates the Rainy River from the Voyageurs National Park, 107 years old, 21 million barrels of oil coming—it is a great concern to all of us.

Ms. FEINBERG. The bridges themselves tend to be owned by the railroads, and the railroads are ultimately accountable to make sure that they are safe and have been maintained. FRA has a staff of bridge specialists that then audit the bridge—audit the safety programs that the railroads have in place to make sure that they are maintaining and inspecting their bridges.

Mr. NOLAN. Well, from what I read, I mean, the—yes, there is, like, 100,000 bridges, you know, that haven't been inspected. The railroads—again, the fox is guarding the chicken coop here. You got, like, eight inspectors, I am told. I mean each inspector would have to inspect about 10,000, 12,000 bridges a year.

Do you have any plans for beefing up, in your own mind, you know, what we might be able to do to have a better method of checking the territory—the technical capabilities and/or deficiencies of these bridges?

Ms. FEINBERG. Well, the reality is that we do not have the—we have not been tasked with inspecting all of the bridges in the country, the rail bridges in the country. We have been tasked with auditing and monitoring the railroad's own inspection and maintenance programs.

We are actively hiring a few additional bridge specialists who can act on that, and we are now looking at whether we should hire some additional folks on top of that. But for the time being, you know, the railroads themselves are actually responsible for——

Mr. NOLAN. Yes. You think it is prudent to have the railroads responsible for the bridges, as opposed to not having some kind of a Federal inspection plan?

Ms. FEINBERG. Well, the railroads tend to own the bridges. And if the bridges are not maintained and are crumbling, then one would think that it would not be safe for their own cargo to be traveling. So I don't know if it is prudent or not. We would be more than happy to throw additional resources at this, if we can, in our budget.

Mr. NOLAN. Thank you, Ms. Feinberg.

Mr. DENHAM. Thank you, Mr. Nolan.

Mr. Duncan?

Mr. DUNCAN. Well, thank you, Mr. Chairman. I happened to be at another hearing, and so most of the questions I would have asked have already been asked. But I would like to say a couple of things.

I noticed in Ms. Feinberg's report or statement that it said total train accidents have declined by 46 percent over the past 10 years. Total derailments declined by 47 percent. Total highway rail grade crossing accidents declined by 24 percent. There is a story here.

Our main concern in this committee, and the main concern of each of your agencies, has to be safety.

But you know, I was—before I went to law school, I got an undergraduate degree in journalism, and taught journalism for a year. I was a newspaper reporter on a daily newspaper for a while. I understand that train accidents and pipeline explosions and so forth receive a lot of huge publicity. But the real story that should come out of here is that a lot of people are doing a real good job here, and that where rail transportation was one of the safest forms of transportation before 2005. Over the last 10 years it has gotten much safer.

There is a story that should be told that our pipelines are perhaps even safer than the trains. So you know, I wish sometimes we could emphasize some good things always, instead of always talking about the bad things.

But I was curious, though. Mr. Mica got into the fact that the industry says 124,000 train cars have to be retrofitted or replaced. Can any of you tell me how much—Ms. Feinberg or Mr. Hart, can you tell me how much it costs per railcar to do this retrofitting? Either of you have that figure? I am guessing it is fairly expensive, when you multiply it times 124,000.

Ms. FEINBERG. Well, it would depend on what level you are starting at. So it would be more expensive to retrofit an unjacketed 1232 than it would be to retrofit a jacketed 1232. But I have seen various numbers that go anywhere from $3,000 to $9,000 to $12,000. That is for a 30-year asset.

Mr. BUTTERS. We could provide you with that data.

Mr. DUNCAN. OK. And how much have the railroads spent thus far on the Positive Train Control program? Does—do any of you know, have a figure like that?

Ms. FEINBERG. I don't know that number, off the top of my head, but billions.

Mr. DUNCAN. I have read in the past, or heard in the past, that it is very, very expensive, and that we are talking in the billions of dollars. But I don't really remember what those costs were at this point. None of you know that figure?

Ms. FEINBERG. We can try to compile that number and report back to you. But I think we would generally agree that it is in the billions.

Mr. DUNCAN. We have already talked about the fact that none of the trains—none of the railroads are going to be able to meet the December 31st deadline. Or there is going to be some fudging on it, or something. What realistically are we talking about, 2018, 2020, or do we have any idea on that?

Ms. FEINBERG. Well, different railroads are at a—are at different stages in the process of implementation.

Mr. DUNCAN. Right.

Ms. FEINBERG. So some are quite close, and some have a longer way to go.

What we have proposed thus far, and what we are continuing to discuss internally and with Members of Congress is granting railroads provisional authority to start to bring PTC online in chunks.

What is important to us is to continue to work closely with the railroads to make sure that PTC is being implemented, and that

progress is being made, rather than a blanket extension that would give people—give companies the ability to take the next couple of years off without making more progress towards implementation.

Mr. DUNCAN. I was given a demonstration of that by Burlington Northern—BNSF at one point. Of course, even that demonstration, though, was a few years ago. So I just was curious about that. Thank you very much.

Thank you, Mr. Chairman.

Mr. DENHAM. Thank you, Mr. Duncan.

Mrs. Bustos?

Mrs. BUSTOS. Thank you, Mr. Chairman. You know, it was exactly 1 month and 9 days ago today that there was a train derailment in my district. And it was—just to kind of paint a picture a little bit, it was in, literally, one of the most scenic areas of the State of Illinois, in a town called Galena, a small town. There is about 55 to 60 trains that go through that community every single day.

And, in this case, this—the train derailment happened in a very remote area. In fact, it took about an hour for the workers to get back there. They had to drive on a bike trail. And, you know, on one side of it, literally, was a cliff. And on the other side was a slough that leads to the Mississippi River. The entire western border of my congressional district is the Mississippi River, the source of drinking water for hundreds of thousands of people in my region.

And you know, this—it was the Bakken crude that was being carried, and there was an explosion. And, literally, I went out to the site, and it was yards from the slough that this crude oil spilled and puddled. And, you know, you think about what could have happened.

And, Chairman Hart, I know you said in your opening statement about the best practice, and how these—what the railcars should be, as far as carrying this crude, this volatile crude. And, you know, since I think I am dead last here, maybe I will just—am I not dead last? Wow.

Well, so it is probably maybe just a little more clarification. I think Mr. Mica was asking some questions and I am not sure if I necessarily heard the answer, or maybe the answers were cut off before anybody could talk about those. But I guess, more than anything, Ms. Feinberg, you had started saying that there is going to be a timeline that is released here pretty soon for the retrofit schedule.

Can you talk a little bit more about exactly what we can anticipate? Because I would like to be able to go back to the community of Galena and say, "OK, here is what we know about this retrofit, here is what we can tell you to maybe give you some peace of mind as these 55 to 60 railcars go through every single day in our community."

Ms. FEINBERG. Yes, ma'am. What I was referring to was the final rule that is sitting at OMB at the moment that we believe will be finalized in the coming weeks. And that rule, though we have not seen it in its final form, should contain both the new car standard and a retrofit schedule, so what schedule would be laid out to retrofit older tank cars to become this more safe standard.

Mrs. BUSTOS. OK. And can we talk a little bit more about the volatility? Again, I know some of these questions have been asked, I just don't know if I have a full understanding about what can be done. Is there any talk about addressing this volatility at the site, before it is loaded in the railcars? Is there any movement along those lines?

And I don't know who the best person is to answer that question, but whoever would like to address that—Mr. Butters? Thank you.

Mr. BUTTERS. Yes. As we have mentioned before, we are looking—this comprehensive approach looks at everything. And looking at the hazardous—I guess physical and chemical properties of the product being shipped is one of those.

We are working with DOE. We recently completed our first phase of that work to look at what research has been done. And at this point there is not enough science right now to—for us to definitely say how this volatility issue plays into this. And—but also underscored the fact that the chemical and physical properties of this flammable liquid can vary, and it can be complicated.

So, further analysis is really needed to make sure that we better understand how volatility, how flammability, boiling point, and other hazardous attributes of this product contributes to that safety, and what can be done to lower that risk.

But, at the end of the day, it is still going to be a flammable liquid. It is a Class 3 flammable liquid that would still be classified that way.

Mrs. BUSTOS. And, Chairman Hart, because you talked quite a bit in your statement about safety, what is the message that I can take back to the citizens of the scenic town of Galena, Illinois, about rail safety? And what would you like to tell a community that has gone through seeing these explosions that are very, very dramatic? And thank God there was no loss of life, but you know, we are talking about now tens of millions of dollars' worth of clean-up that is still going on today.

Mr. HART. Thank you for the question. I think the best we can say is that we learn lessons with each event. And to your question about volatility, our accident investigation experience has demonstrated that the primary indications of the magnitude of the disaster are going to be the speed of the impact, the amount of the release, and the size of the pool fire, as opposed to the volatility.

But to the general question, we learn lessons after every event. And that is, for example, why we put out recently some four urgent recommendations, because we are learning lessons with each new accident, and the urgent recommendations ask for more robust tank cars. We are finding that the current tank cars may be more robust against puncture, but they are not more robust against thermal release. We want to inform the process as quickly as we can and issue recommendations as needed. The best we can say is that every event we see helps us better inform how to improve safety.

Mrs. BUSTOS. Thank you, sir. I have used up my time. If I may say very quickly, Ms. Feinberg, you have been very, very helpful. I appreciate how you reached out to me proactively, as soon as this derailment happened in our district. So thank you.

Mr. DENHAM. Thank you, Mrs. Bustos.

Mr. Butters, in 2011 we reauthorized the Pipeline Safety bill, section 23, the maximum allowable operating pressures of natural gas pipelines. Why has PHMSA failed to meet the deadline to implement the 2011—it was supposed to be done in 18 months, it is still not done yet today.

Mr. BUTTERS. Thank you, Mr. Chairman. As—that is part of our gas rule, the notice of proposed rule, which we are working with—still within the Department of Transportation, in trying to get that rule in final shape, so we can get it out. So we are working vigorously to get this thing completed, so that we can publish that NPRM.

Mr. DENHAM. Working vigorously for 4 years. I mean the same situation with the DOT–111s. This was something that was proposed back in 2011. You said, Ms. Feinberg, in the THUD appropriations meeting, that DOT has been working in earnest for 18 months on the tank car rule. This has been since 2011. Four years, we are still having challenges with pipelines, we are still having challenges with tank cars. Why is it taking 4 years to come up with a new rule? Ms. Feinberg?

Ms. FEINBERG. Thank you for the question. That is right, I did say that in the THUD committee, and that is accurate.

I believe that their—that the agency started work on DOT–111 rulemaking, a tank car rulemaking, earlier in the administration and had some—and the process slowed down a bit. I will say what I said before, which is that our only option is to work within the process that exists for these rulemakings. And, while I think we should always be pressured to move as fast as we possibly can, it is also just generally a long and very thorough process, with multiple steps that take quite a long time.

Mr. DENHAM. Mr. Butters, do you have anything to add?

Mr. BUTTERS. The only thing I would add, sir, is that, being cognizant of this tank car issue, which NTSB, of course, issued a recommendation, our tank—the tank car committee that operates within DOT that brings the tank car manufacturers together, the shippers, the carriers, have been working on this tank car specification issue for a number of years. We have relied on their process to develop that right specification.

Obviously, with the huge growth in transportation of this product required the acceleration of that process. But, as Administrator Feinberg indicates, the—we are bound by the process that we have to follow. And, because of the complication of this particular rulemaking that not only addresses railcar specifications, but rail operations and other factors, to put that final rule together is complex, and it just—has taken quite a bit of time.

Mr. DENHAM. Come on, that is just an excuse. Four years. It is 4 years now. I understand rules take a lot of time. Whether it is an emergency or a congressional order. With the PHMSA 2011 reauthorization, it was a congressional order, and it has still taken 4 years.

Now, again, I appreciate that the two of you are Acting Administrators, and the two of you have been very gracious with your time, and certainly have been very responsive in communicating with this committee. But 4 years by this administration? I mean, not only is this committee frustrated, the folks that we represent, the

American public, are frustrated. They are frustrated any time we have another pipeline that explodes or has challenges. We are frustrated every time that there is a train that hits a high-centered farm truck, or goes off the rails, and we have an explosion, because there is no tank car rule. Four years is too long. We can't have any more excuses on these.

Ms. FEINBERG. I would say that no one is more frustrated with how long this process takes than those of us who are in the middle of the process and responsible for it. And I think there is no one who believes that this process is one that moves fast enough.

Mr. BUTTERS. And the other thing I would add, sir, is that we recognize the importance of this rule, but we also recognize that actions can be taken and are being taken outside of the rulemaking process to address some of these safety issues.

The Secretary of Transportation, and all the modal administrations, are acting within their full authority, whether it is through emergency orders, advisory bulletins, or other actions, and using the influence that we can with the industry to have them step up and take additional actions to address these safety issues.

This rule that is coming out is not going to be an overnight fix. It is going to take time. And——

Mr. DENHAM. And that is the frustration. We understand that it is going to take time to implement it. As you heard from Chairman Mica earlier, we are expecting 10 years is what the industry is saying it is going to take to upgrade these tank cars. We are still going to be moving Bakken crude during those 10 years. We are still going to have challenges with not only creating those American jobs in our districts that actually make these tank cars, but actually getting them out on the road to make America safe.

So, again, very frustrated about the length of time it has taken to come out with this rule. We also want to see the implementation process and see that expedited, as well.

I have got one final question. In the Bush administration, FRA tried to mandate the installation of ECP brakes. And last week, Ms. Feinberg, you had said that a lot of people in FRA believe ECP brakes could be a game-changer. Do you think that they are a game-changer? And is there any plan by FRA to again look at that mandate, or to come up with funding to help to implement it?

Ms. FEINBERG. We have taken a close look at ECP braking. We do——

Mr. DENHAM. And I would ask for a quick response, because my time has expired, and——

Ms. FEINBERG. Yes.

Mr. DENHAM. You can also submit that in writing. But if you can give me a quick response, I would appreciate it.

Ms. FEINBERG. We are supportive of ECP braking. We do believe that it is a game-changer on safety. I am happy to get back to you with the rest on the record.

Mr. DENHAM. Thank you. Ms. Napolitano, you are recognized.

Mrs. NAPOLITANO. Was Mr. Garamendi——

Mr. DENHAM. No. No, but you——

Mrs. NAPOLITANO. Thank you, thank you.

Mr. DENHAM [continuing]. Happily have him go before you.

Mrs. NAPOLITANO. That is fine, thank you. Thank you, Mr. Chairman. And certainly there are certain questions that I have had, because my district is one of the heaviest urban rail traffic in the country, with the Alameda Corridor, with freight, Amtrak, and Metrolink commuter rail.

The Alameda Corridor-East was established by communities to build grade separations. And I have heard you talk about the importance of those. However, there are crossings, 40-plus, in my district, and only about 20 are—have—less than half are built, and the others are in the process. And the—yet the railroad only provides 1- to 3-percent contributions.

I wish somebody would start working on being able to impose upon them the ability to get that—how would I say—delivery expedited, delivery to the east, a little more seriously, in order to be able to get that done. And I am glad the administration's GROW AMERICA includes a section on that for the freight program to mitigate the negative impacts it has on urban areas. And I think that is important, not only for passenger safety, for employee safety, but also the fact that we have had—not recently—derailments in my area, and train accidents that, thank God, UP was able to replace miles of that with new rail, because the increase—expected increase in rail traffic.

But on the Positive Train Control there is a lot of discussion on that. But we need to be able to get a report on the cost, on the ability, and the feasibility of being able to implement it, especially in urban areas that have a greater impact.

And also, the implementation, what is the timeframe that we have? I know it is December of this year, and there may be an extension, based on the need. Most of them are—say it is financial. But we need to be able to understand it a little better on that area.

And we talk about the ability to get all these things done, but what about your budgets? Do you have enough budget? Have your budgets been cut? Because we expect a lot, and yet we are initially saying, "OK, cut different projects and programs that are important to the safety and welfare of our communities at stake." So that is another area that I would like to have you tell us about.

And the shipments, whether it is 110, 120 containers per railroad shipment. There is over 40 coming through my district now. And I know that at one point there was an effort to put in a 3½-mile train, which would have created a lot of issues for my area.

The other area is inspectors and inspections. Do you have enough inspectors? I understand you still—for the bridges, you only have—you have eight, of which two are vacant. And where are we with that?

Then the aging infrastructure that we talk about, we have had a report from this committee years ago by the—an agency—I can't remember, it is outside—that graded our bridges and gave us Ds and Cs, mostly. Are we putting away enough money to be able to provide assistance to the locals when they are privately owned, but are we doing—are we—do we have enough money to be able to get those bridges safe enough to where, if we are utilizing for trucks or rail, that we have that ability to do that?

Pipelines, yes. I have one in my area. But it was a leak on a transfer station that is still being cleaned up, after 25 years. So

those are major issues that we need to be able to ensure that technology advances to—that we are able to detect leaks and take care of them. Because the taxpayer ends up paying for it.

Any comments on all my comments?

[Laughter.]

Ms. FEINBERG. Sure. And we—in order to keep with the time, I am happy to give you more fulsome answers. We can get those back——

Mrs. NAPOLITANO. That is all right. He took a minute and a half——

Ms. FEINBERG. No, no, I will keep going. But just—if I don't get to everything, we are more than happy to provide more. So I will go through some of these, though.

On crossings, we have asked for additional funding in the GROW AMERICA Act. And, in fact, we also just released a notice of funding availability on some grants——

Mrs. NAPOLITANO. How about from the railroads, themselves?

Ms. FEINBERG. The railroads do pay a small portion of—agreed. And I know that these are burdensome expenses for local communities.

We also put into our budget a significant increase in a pool of funding that is available for communities to ask for assistance in grade crossings, grade separations, and also rail relocations. And so we have sent that to the Hill, as well.

In terms of PTC, we actually have a report due to the Congress in the next few months—I believe in June—which we are aiming to get to the Congress on time, if not early, which would be an update to our latest thinking about PTC implementation. I know the commuter railroads, in particular, need assistance with PTC implementation. And we have both called for that in GROW AMERICA, and also in our budget, as well.

I want to make sure I talk about everything you asked about. Bridge inspectors, we covered that a little bit earlier. You are correct, that we have six of eight positions filled at this point. The responsibility for the inspection and maintenance of bridges is a responsibility of the railroads. We audit and inspect with the railroads to ensure that they are holding up their end of bridge maintenance and inspection.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. DENHAM. This is once again my time, but I would gladly yield 5 minutes to the gentleman from California, Mr. Garamendi.

Mr. GARAMENDI. Thank you very much, Mr. Denham and, Chairman, thank you.

First of all, Ms. Feinberg, thank you very much for joining us last week in Davis, where we talked about the volatility of oil. I would recommend or ask that the DOE report—which was actually not a study, but, rather, a study of studies—be part of the record. I think it would be informative. I think it has been—that study has been misused here in some previous questions.

Also, PHMSA, you released a report in August of 2014, in which you concluded that the Bakken crude light crude oil with high gas content, low flash point, low boiling point, and high vapor pressure, and, therefore, highly volatile. Is that correct? Did you do that?

Mr. BUTTERS. Highly flammable——

Mr. GARAMENDI. Yes, you did.

Mr. BUTTERS. Yes, it was highly flammable, yes.

Mr. GARAMENDI. Yes, highly flammable.

Mr. Chairman, a moment ago—well, actually, a few moments ago you spoke very clearly and strongly about the frustration that you have about the process taking so many, many years. And, indeed, it has, usually because of our intervention, because of industry intervention, and also because of the law itself.

We know, categorically, that Bakken crude is highly volatile and very explosive. Is that correct, from all three of you? Is it?

Mr. BUTTERS. It is a highly flammable liquid, and there are variations, but it does have high volatility, as well.

Mr. GARAMENDI. Is it explosive, Mr. Hart?

Mr. HART. It is flammable. Explosive and flammable are variations on the same thing, yes.

Mr. GARAMENDI. Very good. So, Mr. Chairman, let's end our frustration. We are going to be writing legislation here very, very shortly to extend the surface transportation bill. Why don't we write in to that legislation the regulations that are forever stuck in OMB that have been written by the two organizations here that speak to tank car safety standards, that speak to volatility, speak to tracks maintenance, information to the first responders?

All of those things are in the proposed regulations that are stuck in OMB. And, given the nature of regulations, the chances of those regulations, if they ever get out of OMB, being held up by some court challenge is very, very high. We could write laws that protect the public. We have the basic information. It is available from the regulations that have now been sent on to OMB. Why don't we do that? Why don't we take this as our responsibility, and not only the responsibility of the agencies, but rather, our responsibilities?

Set a standard. Texas has set a standard for volatility. Canada has set a standard for volatility. The United States sits here and goes back and forth and, ultimately, puts millions of our citizens at risk. I know they are in your district, Mr. Denham, as they travel down through the Central Valley. They are in my district, in Marysville, West Sacramento, Sacramento, Davis, Dixon, Suisun City, and beyond.

Why don't we just do it? Why don't we take the Texas standard, put it in place? Apparently, Texans are able to get along with it. Why don't we take the Canada standard, cut the difference between the two in half, and let it go? It is clearly better than where we are today.

OK. So, I would ask that the two statements, the PHMSA statement of—report of August 2014, and the DOE study be put in place. And maybe we ought to subpoena the proposed standards that have come out of Ms. Feinberg and Mr. Butters's office.

Enough. I yield back my remaining time. Thank you, Mr. Chairman.

Oh, and by the way, before I quit, there has been a bill introduced, 1697, which I introduced. Love to have you as a co-author, Mr. Chairman.

Mr. DENHAM. Thank you, Mr. Garamendi.

Ms. Hahn?

Ms. HAHN. Thank you, Chairman Denham. I think I am dead last. Thank you, though, for holding this hearing. I really appreciate it, and I know that you know that I have been very concerned about this, and I have spoken with you on a number of occasions about pipeline spills in my district. And this ongoing rulemaking is something I have been following very closely, particularly since I had a pipeline spill in a community that I represent in Los Angeles, the community of Wilmington.

And I think part of what concerns me is that our pipeline safety is completely dependent on simply taking the word of the operators. And this was precisely the problem in Wilmington, where Phillips 66 reported to the State of California and PHMSA that the pipeline that they operated was empty. They even tried to tell me it was idle, which was, apparently, not even a category, when, in reality, it held over 1,000 gallons of oil. And when this pipeline ruptured, it spilled, you know, a lot of barrels of oil into a residential community.

And so, if operators can't meet their end of the bargain to know and report what is in their pipeline to ensure the public's safety, I believe our Federal agencies need to do more, and I really urge you to continue to act in the name of public safety, first and foremost.

And, Mr. Butters, I will just echo what everyone said here. It is unbelievable that this relatively simple rule, which has universal support, is still pending. And I know you have spoken that a lot, but you know, I think, in my community, no one knew the danger of this particular pipeline.

So, let me just move from the recordkeeping, which is part of this rule, which is still pending, and how your agency will define high consequence areas. There are hundreds of pipelines in southern California, many of which are inactive, many of them are active. There are lots of pipelines in my district. And I am concerned about another accident.

I was particularly frustrated with this spill in Wilmington, which resulted in only a $75,000 fine against Phillips 66. You know, this really—we—it clearly was not on the same level as San Bruno, but my residents were highly inconvenienced. Roads were damaged, yards were damaged, jackhammers which went to try to discover and stop this leak completely disrupted the streets for a week, people couldn't even get to—out of their houses or back into their houses.

So, can you give me some assurance, and my constituents, that there will be appropriate penalties for spills in high consequence areas?

Mr. BUTTERS. Thank you, ma'am. As part of the rulemaking process, that is exactly what this will do. It will be a notice of proposed rule, which will outline what we believe should be the appropriate penalties and actions. We are going to seek input on that from the public, from other stakeholders, as well.

We want to ensure that we have the necessary incentives, if you will, to do things safely. As you pointed out, the situation in Wilmington, the operators are required to know their own systems. And in this case, you know, there is no such thing as an idle pipeline. It is either abandoned——

Ms. HAHN. Right.

Mr. BUTTERS [continuing]. Or it is an active line.

Ms. HAHN. Right. And when it is abandoned, there is a specific process that takes place. It is cleaned out, it is sealed. And, if it is active, there are inspection procedures in place.

Mr. BUTTERS. That is——

Ms. HAHN. So, for them to claim that it was idle meant that they did neither. They neither cleaned it out and cemented it on both ends, nor did they have this regular, you know, zipping through the pipeline on regular inspections. This put my community at risk.

Mr. BUTTERS. And we certainly appreciate and are—you know, understand that.

One of the things I wanted to say about the civil penalties, obviously, you know, we do have limitations on what civil penalties we can enforce. But, at the same time, in order for a pipeline operator to either restart a line, we dictate a—usually, a very extensive corrective action order that, in order to comply with that order, costs quite a bit of investment of capital, and requires a lot of these operators to do that. And it can run into the millions and millions of dollars. So we want to ensure that before they bring a pipeline back into service, that they have addressed thoroughly all the safety considerations that need to be addressed.

Ms. HAHN. Right. And I have even suggested—this was about a purchase 15 years earlier of this pipeline. I have even suggested that we have a third party verify when they try to tell us it is inactive, idle.

And the other thing, you know, we had a big misunderstanding with the California Fire Marshal on this issue, in terms of how they interpreted our Federal law and the classifications of pipelines. So can you tell me what PHMSA has done in the last couple years to improve how our States are interpreting the Federal law, and maybe what actions are being taken to improve this relation? That was—half my battle was with the California Fire Marshal, and how they saw this Federal law applying to active, inactive, idle.

Mr. BUTTERS. Sure. In California, the California Fire Marshal has regulatory oversight over liquid lines. The utility commission has over gas lines.

Part of our training program with our State partners is to ensure that these agencies understand the regulations. And there are times where the understanding, interpretation, isn't what it needs to be. When we identify that, we act on it. And it is a continuing activity with us, with our States.

You know, as you know, we provide funding to the States to support their inspection program. Part of that program includes ensuring that they understand regulations and how they should be applied. But, obviously, there are going to be situations where there are some inconsistencies. And when we find out about those, and we are made aware of those, we act very quickly to address them.

Ms. HAHN. Thank you.

Mr. DENHAM. Thank you.

Ms. HAHN. And thank you, Mr. Chairman, for the extra time.

Mr. DENHAM. Thank you, Ms. Hahn.

Ms. HAHN. I yield back.

Mr. DENHAM. Mr. Capuano.

Mr. CAPUANO. Thank you, Mr. Chairman. And thank you, Mr. Chairman, for having this. And I thank the panel for being indulgent with your time, and my colleagues, as well.

I hope you take away the importance of this issue. I have never seen more Members attend a hearing and stay as long as they have to ask questions.

Ms. HAHN. Yes.

Mr. CAPUANO. This is an issue that is important, personally, to a lot of Members, which is why I let my other colleagues go, because, fortunately, I have had no personal experience with these items. Many of my colleagues have, if you heard them. And I think, if nothing else speaks volumes, it should be the fact that they are still here, and every single Democratic Member wanted to speak—I think only two Members had to leave because they had previous commitments—and they wanted to speak, as well.

I think you have heard a lot of the frustration. For me, these issues, a lot of these issues are—to be perfectly honest, as I learn more and more about them, I am amazed at how many issues we have on the table, and how many open issues we have. There's too many of them. And they are not new.

You know, just a quick list. We have got the 111 cars, we have got Positive Train Control, first responder notice, in-cab video just on the rail side. On the pipeline side we have got the automatic shutoff valves, the remote shutoff valves, pipeline integrity, pressure management, the Grandfather Clause, and HCAs, which is an interesting term in itself. Basically, you should just say cities, but that is a different issue, all together.

And, on top of that, we have got the NTSB that has been calling for various regulations forever. Forever. We have had Congress, on several occasions, had to put in statute how long it should take to do these things. And that has been blown by.

Now, I don't want to, you know, besmirch either Ms. Feinberg or you, Mr. Butters. You are both new to your terms, but you are not new to the issue.

Mr. Hart, I guess the question I have to ask you is not specifically on the specific items. You know, we have to reauthorize PHMSA reasonably soon. Should we? Or should we come up with something new? Is it working? Is it not working?

And, again, I don't mean—I am not trying to besmirch the agency, but there is something wrong. There is something wrong. And I am not sure, as one Member, whether it is both agencies have become captive to the industry. You won't be the first regulatory agency to become a captive of those you are supposed to regulate.

I am not trying to kill the railroads. Railroads are important to this country. We need to be able to transport goods. But we need to be able to do it in a safe manner. And, to be perfectly honest, taking 4 years for a regulation, there is no excuse, period. None. On an issue like this it is not that complicated. Either you do it or you don't. Canada did it in about a blink.

We now have—I have never seen this. We have a major rail company that is ahead of the regulators. They are about to stop the use of 111s and lower their speeds without being told to do so. That is amazing to me. I have served the entire time here on the Finan-

cial Services Committee. No bank has ever done that. And yet here we are.

And, by the way, when that happens, what is going to happen to the more dangerous cars? They are going to be shifted. They are going to be shifted out of Canada, and they are going to be shifted off of that one rail company's rail lines into my area. How is that right?

Mr. Hart, should we reauthorize PHMSA? And, if we should, what should we do to make sure that this works?

Mr. HART. I will take the liberty of taking the reauthorization question as a rhetorical question. But I would like to say that——

Mr. CAPUANO. It may not be.

Mr. HART [continuing]. We have experience in other industries where we certainly need the regulators. We need the regulators at the appropriate levels. A model that has worked best in many industries to improve safety is collaboration among everybody in pursuit of a common goal, which is improving safety. That is what we find works best—not just push by the regulator—everybody collaborating to work together toward a common goal.

Mr. CAPUANO. So where is the problem here? Is it at PHMSA or is it the individual agencies? Is it OMB? I mean is it the Secretary? I mean these rules are kind of around. First of all, we don't have half the rules that I think we should have. And the ones we do have seem to be lost somewhere on the Secretary's desk or somehow lost in OMB. And, by the way, we don't even know what is in the rules that are lost. What kind of a process is this? And how do I make it better? Whose butt do we have to kick? Whose budget do we have to cut? Whose budget do we have to enhance to make this work?

Mr. HART. The best I can say on that, again, is that the experience—and I am speaking specifically of the aviation industry. They have such a powerful collaboration that has improved their safety over the years without many new regulations, without—I mean the Federal regulator plays a role in that process, to be sure. But the real advances have come because of the——

Mr. CAPUANO. The aviation industry has other problems. They can't seem to be getting all the things that we all want actually in place. But that is, at least, a different issue.

Now, Ms. Feinberg and Mr. Butters, I really don't have questions—my time is up anyway—because I have so many questions it is not worth the 5 minutes to do it. Plus, we have met privately, we will be meeting again.

The more I learn, the more I realize we have got to make this work. And if you need help, you need to ask. You need to tell us what you need. Otherwise, it will become something a lot more controversial, because it will become something more face-to-face. And that is not helpful, that is not what I want to do. It is not what you want to do. Tell us how to help you, as we go forward, and we will try to do it. And if we can't, we will tell you that. At least let us know what the problems are. But to sit here and tell us that, you know, "We are working on it 18 months, 4 years," you know that is unacceptable. You would never accept that if you were on this side of the table. And please don't expect us to.

I look forward to the next hearing. And, again, I thank the chairman for his indulgence. I thank my Members for showing up. And I thank the panel for helping us out on this.

Mr. DENHAM. I, as well, would like to thank the panel. As you saw, we went over time today. Certainly appreciate your indulgence. As you can see, this is an issue or issues that have the entire committee concerned, interested, focused on. Affects their district, affects the entire country.

And so, we will be following up with questions in writing, and we will be holding another safety hearing later this year. I mean, obviously, we are looking to see the rules moving forward, but we are also going to be holding you accountable to those rules, as well as implementation of them.

I would ask unanimous consent that today's record—hearing remain open until such time as our witnesses have provided answers to each of those questions that may be submitted to them in writing, and unanimous consent that the record remain open for 15 days for any additional comments and information submitted by Members, other questions that might be submitted by Members that had to leave early included in today's record of the hearing.

[No response.]

Mr. DENHAM. Without objection, so ordered.

Again, I would like to thank our witnesses for their testimony today.

If no other Members have anything to add, this committee stands adjourned.

[Whereupon, at 12:29 p.m., the subcommittee was adjourned.]

WRITTEN STATEMENT OF
SARAH FEINBERG,
ACTING ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION,
U.S. DEPARTMENT OF TRANSPORTATION

BEFORE THE
SUBCOMMITTEE ON RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
U.S. HOUSE OF REPRESENTATIVES

"OVERSIGHT OF
THE ONGOING RAIL, PIPELINE, AND HAZARDOUS MATERIALS
RULEMAKINGS"

April 14, 2015

Mr. Chairman, Ranking Member, and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss the safety of our Nation's railroads. Historically, rail has been a safe and reliable mode of transportation, and one that American passengers and shippers are choosing more than ever before.

- Over the last decade, Amtrak ridership increased 29 percent, from 24 million passengers in Fiscal Year (FY) 2005 to 30.9 million passengers in FY 2014;
- In FY 2014, Amtrak set a new ridership record on the Northeast Corridor with 11.6 million passengers, while eight other Amtrak routes also set new ridership records; and
- In 2014, U.S. rail intermodal freight volumes set a new record with nearly 13.5 million containers and trailers, up 5.2 percent over the previous record achieved in 2013.

The Federal Railroad Administration's (FRA) mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. We are a data-driven agency. We closely monitor data and trends to identify, reduce, and eliminate risks.

Today, I will present an overview of the railroad industry's safety performance over the last decade, and I will present an overview of the status of outstanding regulatory actions FRA is currently completing. Finally, I will discuss the U.S. Department of Transportation's (DOT or Department) actions in response to recent accidents and how we are addressing the safety challenges ahead, including through the GROW AMERICA Act.[1]

THE RAILROAD INDUSTRY'S SAFETY RECORD

FRA's top priority is safety. In the ten years from FY 2005 through FY 2014 (the latest year for

[1]The Secretary of Transportation submitted the GROW AMERICA Act to Congress on March 30, 2015. "GROW AMERICA" stands for "Generating Renewal, Opportunity, and Work with Accelerated Mobility, Efficiency, and Rebuilding of Infrastructure and Communities throughout America."

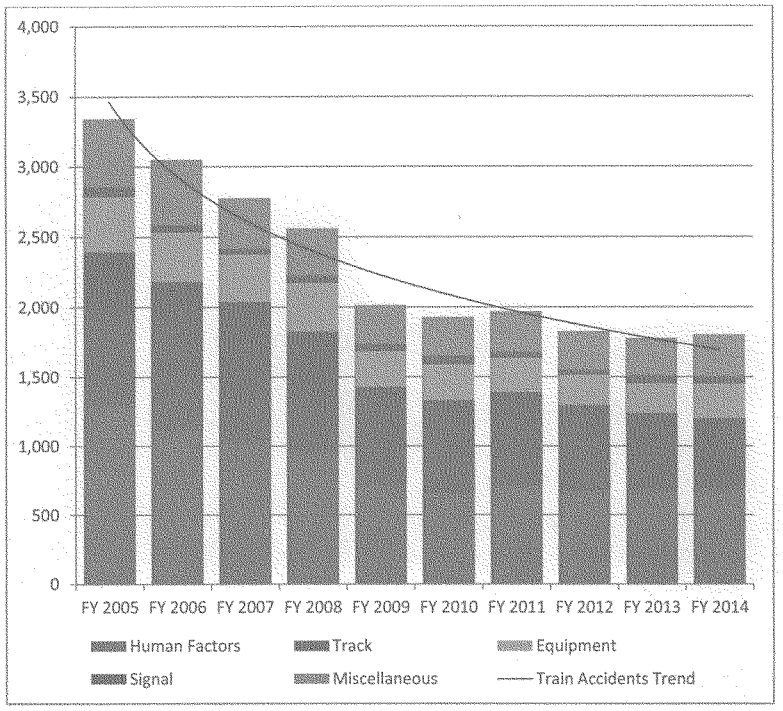
which complete data is available)--

- Total train accidents declined by 46 percent.
- Total derailments declined by 47 percent.
- Total highway-rail grade crossing (grade crossing) accidents declined by 24 percent.

These safety improvements have resulted in 14-percent fewer fatalities overall (906 fatalities to 773 fatalities–94 percent of which are trespassing or grade crossing related), 52-percent fewer employee fatalities, and 6.5-percent fewer injuries (9,386 injuries to 8,774 injuries) over 10 years.

The chart and table below illustrate a decade of safety improvement.

Ten-year Downward Trend for Number of Train Accidents (FY 2005-FY2014)
*Fiscal Year Representing Absolute Numbers



Ten-year Trends for Railroad Accident/Incident Rates, by Accident/Incident Cause

*Accident/Incident, Train Accident, and Grade Crossing Incident Numbers Are Normalized by Million Train-Miles for Fiscal Year.

Non-Accident Hazmat Releases Are Normalized by 200 Million Hazmat Ton-Miles for Fiscal Year.

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Total Accidents/ Incidents	18.093	17.525	17.298	16.908	16.873	16.7	16.098	15.255	15.161	15.785
Human-Factor-Caused Train Accidents	1.648	1.38	1.297	1.23	1.039	0.949	0.996	0.922	0.915	0.901
Track-Caused Train Accidents	1.398	1.318	1.258	1.094	1.039	0.978	0.958	0.851	0.756	0.675
Equipment-Caused Train Accidents	0.499	0.433	0.418	0.436	0.368	0.37	0.342	0.291	0.28	0.32
Total Signal/Misc.-Caused Train Accidents	0.707	0.641	0.506	0.496	0.48	0.488	0.466	0.428	0.437	0.473
Grade Crossing Incidents	3.8	3.797	3.523	3.24	2.986	2.902	2.883	2.791	2.7	2.975
Non-Accident Hazmat Releases	1.406	1.154	1.226	1.234	1.163	1.098	1.082	0.755	0.789	0.821

A decade of steady improvement in safety outcomes, along with significant reductions in the rates of all types of accidents since FY 2008, is strong evidence that FRA's approach to oversight and enforcement is effective. Despite this good news, there are still many risks to mitigate, and we have a long way to go to reach zero accidents, injuries, and fatalities.

AN OVERVIEW OF OUTSTANDING REGULATORY ACTIONS

The Rail Safety Improvement Act of 2008 (RSIA) mandated that FRA, as the Secretary's designee, complete an unprecedented 43 discrete tasks, including the publication of final rules, guidance documents, model State laws, studies, and reports, as well as three types of annual reports and hundreds of periodic accident reporting audits.

Today, FRA has 10 remaining RSIA-mandated, non-periodic items left to complete. The majority of these are final rules that we are currently working with the Office of the Secretary of Transportation and the Office of Management and Budget (OMB) on completing. Appendix 1 lists the RSIA-mandated rulemakings, non-periodic reports and studies, guidance, and model State laws that FRA has completed as of April 1, 2015.

Currently, FRA has identified five significant rulemakings as priority rulemakings for the agency, including three that are at the final rule stage. These rulemakings include:

- ***A Final Rule on Railroad System Safety Programs.*** This RSIA rulemaking would improve the safety of passenger railroad operations through structured, proactive

processes and procedures developed by intercity passenger and commuter railroads. It would require each of these passenger railroads to establish and implement a customized, risk reduction program, called a System Safety Program, supported by certain FRA-approved plans that would systematically identify, evaluate, and mitigate risks on its railroad in order to reduce the number and rates of railroad accidents, incidents, injuries and fatalities. A draft final rule is in review in the Department.

- ***A Final Rule on Risk Reduction Programs.*** This RSIA rulemaking is the freight-railroad counterpart of the System Safety rulemaking. This rulemaking would require each major (i.e., Class I) freight railroad to establish and implement a customized Risk Reduction Program, also supported by certain FRA-approved plans. The notice of proposed rulemaking (NPRM) in this proceeding was published February 27, 2015, and public comments are due by April 28, 2015. Following the close of the comment period, FRA will prepare a final rule.

- ***A Final Rule on Securement of Unattended Equipment.*** This rulemaking would amend the brake system safety standards for freight and other non-passenger trains and equipment to ensure better compliance with the requirements relating to the securement of unattended equipment. Specifically, the NPRM in this rulemaking, published in September 2014, would codify some of the requirements already included in FRA's Emergency Order Establishing Additional Requirements for Attendance and Securement of Certain Freight Trains and Vehicles on Mainline Track or Mainline Siding Outside of a Yard or Terminal. 78 FR 48218 (Aug. 7, 2013). Amendments to FRA's existing regulations would include additional securement requirements for unattended equipment, primarily for those that include cars containing certain hazardous materials, and additional communication requirements relating to job briefings and securement verification.

- ***An NPRM on Train Crew Staffing.*** This rulemaking would propose train crew staffing requirements to address the safety risks posed to railroad employees, the general public, and the environment.

- ***An NPRM on Passenger Equipment Safety Standards.*** This rulemaking would propose amendments to 49 C.F.R. Part 238 to update existing safety standards for passenger rail equipment. Specifically, the proposed rulemaking would add standards for alternative compliance with requirements for Tier I passenger equipment, increase the maximum authorized speed for Tier II passenger equipment, and add requirements for a new Tier III category of passenger equipment needed to support the procurement of high speed train sets.

Additionally, FRA is committing significant resources to assist the Pipeline and Hazardous Materials Safety Administration (PHMSA) with the development of its final rule on high-hazard flammable trains.

Further, there are additional regulatory actions under development at FRA. These include the following:

- A final rule on Miscellaneous Amendments to Roadway Worker Protections;
- An RSIA final rule extending the alcohol and drug regulations to maintenance of way (MOW) employees and contractors;
- A final rule on Passenger Train Door safety;
- A final rule on rail equipment safety glazing;
- An RSIA NPRM on Fatigue Management Programs;
- An NPRM on Engineer Qualification Revisions;
- An NPRM on Hours of Service Recordkeeping Amendments; and
- An NPRM on Accident Reporting Threshold Calculation.

RESPONSE TO ACCIDENTS

Last year we conducted 71,380 compliance inspections and 100 accident investigations. The information learned as a result of these activities, along with other key data and research, plays an important role in our ability to identify future risks and how to mitigate those risks or eliminate them entirely. The data also inform our approach to necessary enforcement actions.

In recent months, the safe shipment of crude oil, passenger safety, and highway-rail grade crossing safety have attracted widespread attention after several high-profile incidents. Additionally, the installation and implementation of Positive Train Control (PTC) remains at the forefront of advancing safety. The following section reviews initiatives FRA has taken to address safety challenges in these areas.

SAFE TRANSPORTATION OF ENERGY PRODUCTS

Transportation of crude oil by rail has increased significantly. Between 2009 and 2013 (the last year for which data is available), the rail shipment of crude oil has increased by 4,000 percent. Much of this traffic is driven by new production from the Bakken oil fields in North Dakota.

This is a nationwide transportation safety concern as crude oil and other energy products are shipped from production areas to refineries on the East, West, and Gulf Coasts. The consequences of an accident involving containers of crude oil can be catastrophic, as demonstrated by the accident in Lac-Mégantic, Québec, which killed 47 people.

Since the Lac-Mégantic derailment on July 6, 2013, there have been 22 subsequent train accidents in the United States involving trains carrying crude oil. In response to these increased hazards, the Department is pursuing a holistic, all-of-the-above approach to ensure the safe movement of energy products in America. We believe this comprehensive approach must include enhancing the integrity of the tank car itself, strengthening the safety requirements of railroad operations, and taking whatever steps are possible to improve the safety of the product itself.

PHMSA and FRA have undertaken more than two dozen actions to enhance the safe transport of crude oil since December 2012, including issuing emergency orders, safety advisories, safety alerts, hosting public hearings, putting shippers and carriers on notice, as well as providing training for emergency first responders.

To address this growing challenge, FRA has requested 45 new staff positions dedicated to the Safe Transportation of Energy Products (STEP) in its FY 2016 Budget. This includes creation of five new Crude Oil Route Manager positions to focus on the Nation's main energy corridors. For the field, FRA requests 40 dedicated safety inspectors and rail safety specialists to oversee railroads' crude oil safety performance and to ensure that next generation tank cars are built to applicable standards. In addition, FRA seeks additional funds to expand the coverage of its Automated Track Inspection Program (ATIP) on routes with heavy traffic of energy products and to fully implement the Crude Oil Route Track Examination (CORTEX) program, which involves increased track inspections focused specifically on crude oil routes.

Oversight and enforcement are important strategies for making crude oil transportation by rail safer, and so are improving infrastructure and investing in capital. Short lines and local governments in particular require assistance making such investments. FRA's proposed $250 million Local Rail Facilities and Safety grant program, part of the Rail Service Improvement Program, would fund safety projects, including those involving crude oil and energy products.

For example, the Short Line Safety Institute (Institute) provides safety culture assessments, training and education, and recommendations to improve the safety culture on short line railroads involved in the movement of crude oil. In FY 2014, FRA's Office of Research and Development obligated $500,000 to support the development and pilot-testing of the Institute's safety culture assessments. In FY 2015, Congress appropriated $2 million to "improve safety practices and safety training for Class II and Class III freight railroads." FRA plans to add another $300,000 in available appropriations to this effort, for a total budget of $2.3 million. This includes a $1.8 million grant to the American Short Line and Regional Railroad Association (ASLRRA) to perform safety assessments and training on short lines that transport crude oil. Additionally, $100,000 will be awarded to the University of Connecticut to test and validate the safety culture assessment tools and support emerging needs as the pilot phase progresses. FRA will provide $400,000 to the Department's Volpe Center to provide a short line safety needs assessment and to evaluate the implementation and impact of the pilot safety assessments. Volpe will also support ASLRRA in the development of the Institute's long-term training and education needs.

PASSENGER RAILROAD SAFETY

The number of intercity passenger rail services and commuter trips is rapidly increasing. Today, there are more than 500 million railroad passenger trips annually. Protecting the safety and minimizing risks for these passengers as well as railroad crews is a top priority of FRA.

In the aftermath of four high-profile accidents on the Metro-North Railroad in 2013, FRA took unprecedented action by conducting a thorough, in-depth review of the railroad's safety culture. That review highlighted risks that are now managed and mitigated to ensure that policies, processes, and oversight are in place to reduce the risk of accidents in the future.

For FY 2016, FRA has requested 15 new staff positions to develop and implement risk reduction and system safety programs and provide direct oversight and technical assistance to commuter, shared use, and passenger operations. These new positions will enable FRA to conduct recurring evaluations of the safety culture of passenger rail providers across the Nation.

Oversight and enforcement are important strategies to ensure passenger rail safety. In addition, PTC will improve the safety of rail operations by significantly reducing the primary cause of train accidents–human error. Having heard repeatedly from commuter railroads of the financial challenges they face, a key component of FRA's FY 2016 budget includes $825 million to assist commuter railroads in achieving full compliance with the statutory mandate to implement PTC. The budget also provides funding to assist with the implementation of PTC on Amtrak routes.

GRADE CROSSING SAFETY AND TRESPASS PREVENTION

For more than a decade, the number of grade crossing collisions has been decreasing. However, that trend has begun to reverse. In FY 2014, the number of grade crossing incidents increased by nearly 13 percent over FY 2013 levels, and the number of fatalities at grade crossings increased by 6 percent. Overall, in FY 2014, grade crossing and trespassing fatalities accounted for 94 percent of all rail-related deaths.

In the wake of recent incidents near or at grade crossings in California, New York, and North Carolina, FRA launched a multi-faceted campaign to enhance grade crossing safety. The first initiative of the campaign was geared towards law enforcement agencies, requesting that they increase their presence at grade crossings, issue more citations to drivers that violate traffic laws at crossings, and consider the rapid implementation of best practices for grade crossing safety. The initial phase of the campaign has been successful, with a number of law enforcement jurisdictions increasing their presence at grade crossings and writing substantially more citations to drivers at crossings. In New York, for example, the Metropolitan Transportation Authority (MTA) Police Department issued six times as many citations during the first quarter of 2015 as they did for the same period last year. Most citations are being issued to drivers who drive around warning gates, stop on the tracks, or drive while distracted at grade crossings.

Subsequent phases of the campaign will include increasing public awareness, employing greater use of technology, improved signage, stronger partnerships with States and safety organizations, as well as exploring how additional funding for grade crossing safety can be effectively utilized to improve safety outcomes.

Similarly, trespass deaths followed the same pattern as grade crossing collisions between FY 2009 and FY 2014. There was an average of 420 fatalities per year between FY 2009 and FY 2013. The actual number of trespasser fatalities (473) increased in FY 2014 by 7.7 percent over the previous fiscal year. Trespassing is a leading cause of rail-related deaths and accounted for 61 percent of all rail-related fatalities in FY 2014.

In the FY 2016 budget, FRA requests 16 grade crossing safety manager and 8 trespass prevention manager positions. These employees would conduct nationwide safety outreach with the trucking industry, communities, local planners, schools, and others to improve the safety of the nearly 130,000 public grade crossings. FRA also seeks funds to bring together trespass prevention experts from freight, commuter, and transit railroads to share and develop new prevention initiatives. Moreover, FRA requests new funds to implement a pilot program to provide targeted and sustained community outreach.

Additionally, the proposed $250 million Local Rail Facilities and Safety grant program will enable local communities to build grade crossing improvements and relocate rail lines from residential neighborhoods or other highly trafficked areas, among other critical improvements.

IMPLEMENTATION OF PTC

The implementation of PTC is the single most important safety advancement facing the rail industry today. RSIA mandated the technology to be implemented on certain railroads and routes by December 31, 2015.

With limited exceptions and exclusions, PTC is required to be installed and implemented on Class I railroad main lines -- lines with 5 million or more gross tons annually – over which any poisonous or toxic by inhalation (PIH/TIH) hazardous materials are transported. By statute, the technology is also mandated on any railroad's main line over which regularly scheduled passenger intercity or commuter operations are conducted. It is currently estimated this will equate to approximately 70,000 miles of track and will involve approximately 20,000 locomotives.

PTC technology is capable of automatically controlling train speeds and movements should a train operator fail to take appropriate action for the conditions at hand. For example, PTC can force a train to a stop before it passes a signal displaying a "stop" indication, or before diverging on a switch improperly lined, thereby averting a potential collision. PTC systems required to comply must reliably and functionally prevent:

- Train-to-train collisions;
- Over-speed derailments;
- Incursion into an established work zone; and
- Movement through a main line switch in the improper position.

PTC systems must also provide for interoperability in a manner that allows for equipped locomotives traversing other railroad's PTC-equipped territories to communicate with and respond to that railroad's PTC system, including uninterrupted movements over property boundaries.

Although the railroads subject to the mandate are working diligently towards implementation of PTC systems, FRA is concerned that the vast majority of these railroads will not be able to meet the deadline. FRA's August 2012 Report to Congress "Positive Train Control: Implementation Status, Issues, and Impacts" summarized the major technical and programmatic challenges and obstacles associated with PTC implementation that FRA had identified so far. Subsequent to the report's submission, a new issue regarding historic preservation reviews of communications

towers required for PTC deployment arose under the jurisdiction of the Federal Communications Commission (FCC). Since then, the FCC has taken steps to address the issues by engaging stakeholders, including FRA, to develop a process to expedite the required historic preservation reviews.

Further, commuter rail operations are cash-strapped and unable to attain certain necessities for implementation, such as communications spectrum.

In recent months, significant interest in a path forward to implementing PTC in the face of a statutory deadline that most railroads will not be able to comply with has emerged among both members of Congress and industry representatives. FRA has proposed that it be granted provisional authority to review, approve, and certify PTC Safety Plans on an individual basis, even though the mandated deadline might be exceeded. FRA has also indicated its willingness to employ enforcement discretion in those situations where railroads have been consistently working towards PTC implementation but will not be able to comply with the current deadline. Moreover, FRA has proposed that it be provided the authority to provide limited extensions to any deadline imposed by Congress in order to permit some latitude in those circumstances where unforeseen events delay a railroad's ability to fully implement PTC.

In the FY 2015 appropriations law, Congress directed FRA to compile and complete a second report to Congress on PTC implementation. That report is due in June 2015; however, FRA is working to complete the report and transmit it to Congress sooner. The report will include a number of additional recommendations and will address issues surrounding the current statutory deadline for PTC implementation.

How FRA Is Addressing Safety Challenges Ahead

Continuous safety improvement requires a comprehensive strategy designed to eliminate risk. Here is FRA's strategy:

1. Continuing a rigorous regulatory and inspection program based on strategic use of data;
2. Advancing proactive approaches for early identification and reduction of risk; as well as
3. Capital investments and robust research and development (R&D).

Continuing a Rigorous Regulatory and Inspection program

We will continue this framework for safety oversight and enforcement and improve it. Data-driven analysis will continue to guide workforce planning and inspection activities.

FRA's regulatory program improves safety by developing rules based on facts, incident and accident causation analysis, comparison of alternative mitigation measures, and cost-beneficial solutions. FRA rulemaking considers current and future industry capabilities, compliance burden and cost, and other economic and social realities. Within this context, FRA will continue to attempt to meet statutory milestones with its available resources.

State rail inspectors are a force multiplier for FRA's compliance and enforcement efforts. The State Rail Safety Participation Program consists of 30 States employing 186 safety inspectors in

the 5 rail safety inspection disciplines: motive power and equipment; operating practices; track; signal and train control; and hazardous materials. States serve as FRA's safety partners. State programs conduct routine compliance inspections; and may undertake additional investigative and surveillance activities consistent with overall program needs and individual State authorities and capabilities. FRA provides on-the-job training to State inspectors. We invite additional State participation in this important program and view it as an opportunity to improve oversight in key States and regions.

Focus Areas

Safety overall has improved; however, accidents related to human error and track defects account for more than two-thirds of all train accidents, and for decades trespassing and grade crossing incidents have accounted for more than 90 percent of all rail-related fatalities. We will allocate resources and work with partners, such as Operation Lifesaver, to make improvements in these challenging areas. Over the last several years, FRA completed the following rulemakings, reports, guidance documents, and other actions, which are important milestones to guide our work in these areas:

Human Factors

- Final rule to advance nationwide implementation of PTC systems by defining statutory terms and the essential functionalities of PTC systems. FRA also issued two other rules designed to reduce some of the costs of PTC implementation. PTC systems are a technology that promotes safety improvement through the reduction of certain human-factor-related incidents and will complement FRA's other safety efforts, such as implementation of safety Risk Reduction Programs (RRP) and crash energy management as applied to rail equipment. On August 22, 2014, FRA published a final rule regarding exceptions to the current regulatory requirements to install and implement PTC systems. The final rule responds to a petition for rulemaking submitted by the Association of American Railroads (AAR). The final rule reduces the number of miles of track and the number of locomotives on which a PTC system must be installed and implemented. Publication of the final rule facilitated settlement of AAR's suit challenging the then-current PTC regulations.
- Final rule requiring a railroad to have a formal program for certifying train conductors. This raised the bar of professionalism and ensures that only those persons who meet minimum Federal safety standards serve as conductors.
- Final rule that establishes minimum training standards for each class or craft of safety-related railroad employees. The rule requires the qualification and documentation of the proficiency of such employees on their knowledge and ability to comply with Federal railroad safety laws and regulations and the employing railroad company's rules and procedures implementing those laws and regulations. FRA is presently reviewing a petition for reconsideration of this final rule.
- Final rule that enhances safety by mandating that certain railroads (each Class I railroad, intercity passenger railroad, and commuter railroad) have a Critical Incident Stress Plan that may help mitigate the long-term negative effects of critical incidents upon railroad employees and the impact of performing safety-sensitive duties in the days following

such incidents when the associated stress may hinder their ability to perform such duties safely.

- Final rule on the hours of service of passenger train employees. This rule draws on detailed research into the causes of train operator fatigue and analysis of thousands of operator work patterns. FRA also published in the Federal Register three detailed statements of agency policy and interpretation to clarify the hours of service laws as amended by RSIA.
- FRA-led industry-wide initiative to combat the dangers of electronic device distraction in the railroad workplace as well as an emergency order and then a final rule prohibiting distracted operation of trains.
- Proposed rule to extend FRA's alcohol and drug regulations to MOW employees, contractors, and subcontractors. Also, makes other substantive amendments that either respond to National Transportation Safety Board (NTSB) recommendations or update and clarify the alcohol and drug regulations based on a retrospective analysis.

Track Safety

- Final rule to improve rail inspections. Requires the use of performance-based rail inspection methods that focus on maintaining low rail failure rates per mile of track and generally results in more frequent testing for internal rail flaws that are invisible to the naked eye; provides a four-hour period to verify that certain less serious suspected defects exist in a rail section once track owners learn that the rail contains an indication of those defects; requires that rail inspectors are properly qualified to operate rail flaw detection equipment and interpret test results; and establishes an annual maximum allowable rate of rail defects and rail failures between inspections for each designated inspection segment of track. These changes are intended to reduce the risk of derailments caused by rail failures by improving the accuracy of rail inspections and shortening the time that latent, undetected rail flaws remain in track.
- Vehicle/track interaction safety standards. The final rule was based on research into vehicle/track interaction, and it promotes the safe interaction of rail vehicles with the track over which they operate under a variety of conditions at speeds up to 220 mph. The rule also adds flexibility for safely permitting high cant deficiency train operations[2] through curves at more conventional speeds so that both freight and passenger trains may better sustain maximum allowable speeds through curved track.
- New technology to improve track safety. Through our R&D program we are developing new technology for avoiding track buckles (sun-kinks). The device measures the neutral temperature of rail and warns the railroad when track maintenance is required to avoid track buckling. We are also developing technology to predict rail temperature variations. This provides railroads information needed to decide the extent and duration of slow orders to reduce safety risk on hot days.

[2] Cant deficiency involves traveling through a curve faster than the balance speed and produces a net lateral force to the outside of the curve. http://www.highspeed-rail.org/Documents/PRIIA%20305%20DocSpec%20and%20other%20NGEC%20Documents/305%20PRIIA%20Tilt%20presentation.pdf

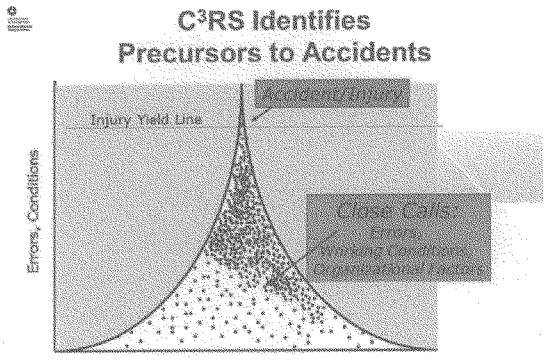
- Standards requiring railroads to establish and maintain toll-free "1-800" emergency notification systems by which the public can telephone the proper railroad about a stalled vehicle or other safety problem at a specifically-identified grade crossing.
- Regulations requiring 10 States to issue State-specific action plans to improve safety at grade crossings.
- Model State laws on highway users' sight distance at passively signed crossings and on highway motorists' violations of grade crossing warning devices.
- A final rule specifying the types of information that railroads have to report to the Department's National Crossing Inventory and periodically update.
- A five-year strategy to improve grade crossing safety, including an audit every two years of Class I railroads' grade crossing accident reports to ensure that these railroads are accurately reporting these incidents. Resources permitting, FRA will conduct such audits every five years on other railroads.
- Guidance addressing pedestrian safety at or near passenger rail stations.
- An FRA-released smartphone application with grade crossing information.

ADVANCING PROACTIVE APPROACHES TO REDUCE RISK

Continuous safety improvement requires a multi-faceted approach. The next level of safety will come from advancing proactive safety-based programs that analyze risks, identify hazards, and put in place customized plans to eliminate those risks.

- Risk Reduction Programs (RRP) and System Safety Programs (SSP) that help identify accident precursors so that corrective action can be taken in advance. As previously mentioned, a final rule to require passenger railroads to develop and implement SSPs is currently in review in the Department, and an NPRM that would require freight railroads to establish RRPs was published on February 27, 2015. Both are designed to require railroads to develop and implement systematic risk-based approaches to ensuring continuous safety improvement.

- Confidential Close Call Reporting System (C^3RS), a voluntary and non-punitive program for railroads and their employees to report close calls. Results from one C^3RS pilot site indicate nearly a 70-percent reduction in certain accidents. C^3RS helps develop a positive and proactive safety culture, using detailed data far beyond what is obtained during accident investigations. The magnitude of the information provided from proactive programs like C^3RS in comparison to traditional data from accidents and injuries is illustrated below:



Programs like C³RS allow us to gather data *before* an accident occurs and to develop risk mitigation strategies well in advance.

CAPITAL INVESTMENTS, INCLUDING ROBUST R&D

Safety is improved not just through regulations and inspections but also through capital investments and R&D. Through the American Recovery and Reinvestment Act of 2009 (Recovery Act) and subsequent Fiscal Year 2010 appropriation, Congress dedicated more than $10 billion to improve the Nation's rail system. The investments made with these funds have reduced trip times, improved reliability, added frequencies, and modernized stations and passenger equipment. In addition to these service improvements, this funding has also enhanced railroad safety through track and bridge improvements, grade crossing protection measures and separations, and PTC and signal system upgrades.

Decades of underinvestment have led to a multi-billion dollar backlog of projects required to maintain a state of good repair on our Nation's rail system, as well as a significant deficit in the capital funding required to meet this current need and rising future demand. The Administration has put forward comprehensive, $478 billion multi-modal surface transportation reauthorization proposal–the GROW AMERICA Act--to meet the transportation challenges facing the United States. The proposal includes $29 billion for rail over six years. The fundamental goal of this proposal is to implement a coordinated approach to enhancing the Nation's rail system–an integrated strategy that addresses safety and passenger and freight service improvements.
In addition to capital investments, FRA has consistently made gains in safety using advanced R&D. FRA's R&D efforts not only provide the scientific and engineering basis for FRA's rulemaking and enforcement mechanisms, such as FRA's 2011 substantive hours of service regulations for passenger train employees, FRA's R&D efforts also advance the next generation of rail safety technology and practices. FRA has a number of R&D initiatives underway and planned for FY 2016 that will lead to safety improvements across the railroad industry.

FRA'S REAUTHORIZATION PRIORITIES

FRA's two core authorizations–RSIA and the Passenger Rail Investment and Improvement Act of 2008 *(PRIIA)* –expired in 2013. FRA is proud of its accomplishments in implementing RSIA and PRIIA, particularly in light of the laws' sweeping provisions and the FRA's concurrent need to implement and administer the Recovery Act funding. Today, FRA is a very different agency than when these laws were passed, managing an investment portfolio of more than $24 billion in grants and loans. The rail industry has also changed dramatically since their passage in 2008. Despite the progress made since 2008, significant work remains to improve the national rail network. The Administration is encouraged that Congress, and this committee in particular, recognizes the need for action. The GROW AMERICA Act and the President's FY 2016 Budget (Budget) present an integrated strategy to enhance safety, maintain current rail services and infrastructure, and expand and improve the rail network to accommodate growing passenger and freight demand. The Administration's proposal for rail reflects the following priorities:

- **Build and strengthen our record of safety**. Rail is already among the safest modes of transportation. Nevertheless, continuous safety improvement is imperative. FRA is leading several related initiatives, such as the system safety and risk reduction programs that influence safety outcomes proactively and preemptively; expanding the successful C^3RS program; and supporting implementation of PTC system technology. The budget makes investments in advancing FRA's safety mission by supporting PTC system implementation on Amtrak and commuter rail routes. In addition, would provide funding to assist with the implementation of PTC on commuter railroads and Amtrak routes, study blocked crossings on a systematic basis, and would grant FRA authority to give merit-based extensions of the PTC implementation deadline, to permit provisional operation of PTC systems, and to prescribe science-based hours of service regulations for covered service employees still governed by the inadequate statutory provisions.

- **Grow our economy.** Rail plays a critical role in supporting the stability and growth of the U.S. economy. Freight rail is a $70 billion industry that is relied upon by various sectors across the economy. Collectively, freight and intercity passenger rail employs over 250,000 people across America. Additionally, recent Federal investments in passenger rail are contributing to a revival of domestic rail equipment, manufacturing, and supply industries.

- **Close the infrastructure deficit while modernizing our rail infrastructure.** Past generations of Americans invested heavily to build the infrastructure we rely on today. Passenger rail capital investments have failed to keep up with the needs of existing fleet and infrastructure requirements. The Northeast Corridor (NEC) alone requires nearly $1.5 billion per year over 15 years just to bring the corridor into a state of good repair and maintain it in that condition. The average age of the NEC's major bridges and tunnels is approximately 110 years old. These assets have remained in service well beyond their expected useful life and today require extensive maintenance and are major sources of corridor delays. Commuter rail and Amtrak intercity services move 750,000 people each day along the corridor on more than 2,000 daily trains. An unexpected loss

of the NEC for one day alone could cost the Nation nearly $100 million in transportation-related impacts and productivity losses. Maintaining and modernizing these assets would reduce long-term costs and result in safer, more reliable, and more efficient rail transportation. The Budget would make investments to reduce the backlog of rail maintenance needs, replace obsolete equipment, and modernize stations to comply with Americans with Disabilities Act requirements.

- **Meeting growing market demand**. With the United States expected to gain 70 million people by 2045, the national transportation system must prepare for substantial increases in the movement of people and goods. Rail transportation will be critical to meeting this growing demand. FRA's Budget would make strategic investments that reflect the needs of multiple stakeholders–passenger and freight rail operators, the traveling public and shippers, governments and private interests. The Budget would fund projects based on specific market needs and rigorous analysis of costs and benefits. The Budget would make investments in both new and improved passenger rail services with varying frequencies and speeds, offering ladders of opportunity and necessary mobility to a variety of communities.

- **Promoting innovation**. FRA's budget invests in R&D and workforce to enable America's global leadership in rail safety, productivity, and technological innovation. FRA's vision is a domestic rail industry that leads the world again–we want U.S. companies to patent state-of-the-art rail technology, supply rail operators throughout the world, and employ the best engineers and railway workers. The United States should export intellectual capital and rail products, not import them. The budget makes investments in America's workforce, manufacturing, and critical R&D activities.

- **Ensuring transparency and accountability**. Accomplishing the priorities described above can occur only if these programs are managed through a process that makes expected public benefits and service improvements transparent to the American people. The roles and responsibilities of the Federal government, States, Amtrak, freight railroads, and other stakeholders must be clear and based on sound public policy. One of the principles of GROW AMERICA and the FY 2016 Budget is to organize funding for current passenger rail services by business lines and invest Amtrak's NEC operating surpluses back into the corridor to address NEC infrastructure needs. This structure would improve transparency and accountability for taxpayer investments by aligning costs, revenues, and Federal grants to business lines to better ensure that our investments are advancing the nation's goals and objectives for rail services. GROW AMERICA and the FY 2016 Budget also request $350 million per year to bring Amtrak-served rail stations into compliance with the Americans with Disabilities Act. Accessibility to our Nation's rail system is a civil right, and DOT is committed to rectifying this issue. The Budget would provide a transparent structure that would ensure delivery of public benefits and a high level of accountability for public resources.

The Need for Predictable Funding

An overarching issue that runs across all of these priorities is the need for sustained and predictable Federal funding for rail programs, similar to the treatment of other modes of transportation. Congress has for decades funded highway infrastructure and safety, transit, and aviation programs through multi-year authorizations that provide guaranteed funding. This enables States, local governments, and other stakeholders to plan and make large-scale infrastructure investments on a year-to-year basis. Likewise, internationally, other major rail systems have been planned and developed through a predictable multi-year funding program. GROW AMERICA would establish a Rail Account within the Transportation Trust Fund to provide this funding certainty for rail.

CONCLUSION

Thank you for the opportunity to testify and answer your questions today. Safety is FRA's number one priority, and we appreciate your attention and focus on such an important issue for the American public. Our vision for the next generation of rail safety balances a comprehensive and effective regulatory framework with innovative, proactive ideas and capital investment, including critical R&D. We look forward to working with this Committee to improve our programs and make the American rail network as safe, reliable, and efficient as feasible. I will be happy to respond to your questions.

# # #

Appendix 1

FRA Rulemakings Completed as of April 1, 2015, that were Mandated, Explicitly or Implicitly, by RSIA[3] as amended by MAP-21[4]

1. To specify the essential functionalities of mandated PTC systems, define related statutory terms, and identify additional lines for implementation. *(Sec. 104).*[5] *Final rule with request for comments published on Jan. 15, 2010; final rule amendments published on Sept. 27, 2010.*

2. To establish substantive hours of service requirements for passenger train employees. *(Sec. 108(d)). Final rule published on Aug. 12, 2011.*

3. To update existing hours of service recordkeeping regulations. *(Sec.108(f)). Final rule published on May 27, 2009.*

4. To require State-specific action plans from certain States to improve safety at highway-rail grade crossings. *(Sec. 202). Final rule published on June 28, 2010.*

5. To implement the statutory requirement that railroads report certain information to DOT's National Crossing Inventory. (Sec. 204 as amended by MAP-21). *Final rule published on Jan. 6, 2015.*

6. To require toll-free telephone emergency notification numbers for reporting problems at public and private highway-rail grade crossings. *(Sec. 205). Final rule published on June 12, 2012; final rule amendments and response to petitions for reconsideration published on Mar. 15, 2013.*

7. Increase the ordinary maximum and aggravated maximum civil penalties per violation for rail safety violations to $25,000 and $100,000, respectively. *(Sec. 302). Final rule published on Dec. 30, 2008; correcting amendment published on Apr. 6, 2009.*

8. On prohibition of individuals from performing safety-sensitive functions in the railroad industry for a violation of hazardous materials transportation law. *(Sec. 305). Final rule on published May 19, 2009.*

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[3] In addition, FRA commenced a rulemaking to define "critical incident" for purposes of the mandated rulemaking on critical incident stress plans as specifically required by Sec. 410(c)). These rulemaking or quasi-rulemaking mandates, involving a total of either six final rules or five final rules and one guidance document) remain open: Sec. 103 (for three rules--on system safety programs, risk reduction programs, and fatigue management plans); Sec. 406 (for guidance or a rule regarding rail safety technology on line in dark territory (lines not equipped with operational wayside signal or train control system); Sec. 412 (for a rule extending coverage of alcohol and drug rules to maintenance of way workers); and Sec. 420 (for a rule on emergency escape breathing apparatus).

[4] Effective October 1, 2012, Section 1519(c)(6) of the Moving Ahead for Progress in the 21st Century Act (MAP-21) amended a provision that was enacted in Sec. 204 of RSIA concerning the National Highway-Rail Crossing Inventory. In particular, MAP-21 repealed Subsections (l)(3) and (l)(4) of 49 U.S.C. 130.

[5] In addition to RSIA-mandated PTC rules, FRA has published three other PTC rules and PTC-related interim guidance.

9. On procedures for emergency waivers. *(Sec. 308). Final rule published on May 19, 2009.*

10. To require training standards and plans for categories of railroad employees. *(Sec.401). Final rule published on Nov. 7, 2014.*

11. To require the certification of conductors. *(Sec. 402). Final rule published Nov. 9, 2011; final rule amendments and response to petition for reconsideration published on Feb. 8, 2012.*

12. On the results of FRA's study of track inspection intervals and other track issues. *(Sec. 403(c)). Final rule published on Jan. 24, 2014.*

13. On concrete ties. *(Sec. 403(d)). Final rule published Apr. 1, 2011; stay of final rule published June 15, 2011; final rule responding to petitions for reconsideration published on Sept. 9, 2011.*

14. To require certain railroads to develop and submit for FRA approval their plans for providing appropriate support services to employees affected by a "critical incident" as defined by FRA. *(Sec. 410(a)). Final rule published on Mar. 25, 2014.*

15. To require owners of railroad bridges to implement programs for inspection, maintenance, and management of those structures. *(Sec. 417). Final rule published on Jul. 15, 2010.*

16. On camp cars used as railroad employee sleeping quarters. *(Sec. 420). Final rule published on Oct. 31, 2011.*

17. Amending regulations of the Office of the Secretary of Transportation to provide that the Secretary delegates to the Administrator of FRA the responsibility to carry out the Secretary's responsibilities under RSIA. *(Necessitated by RSIA as a whole, but not a specific section of RSIA) Published June 5, 2009.*

Completed RSIA-Mandated Guidance and Model State Laws[6]

1. Guidance on pedestrian safety at or near rail passenger stations. *(Sec. 201). Guidance provided in April 2012.*

2. Guidance for the administration of the authority to buy items of nominal value and distribute them to the public as part of a crossing safety or railroad trespass prevention program. *(Sec. 208(c)). Guidance provided on June 25, 2009.*

3. Model State law on highway users' sight distances at passively signed highway-rail grade crossings. *(Sec. 203). Model State law provided on Jan. 7, 2011.*

4. Model State law on motorists' violations of grade crossing warning devices. *(Sec. 208). Model State law provided on Nov. 10, 2011.*

[6] In addition, FRA has published three guidance documents on the hours of service laws as amended by RSIA in the Federal Register.

Completed RSIA-Mandated Non-periodic Reports or Studies[7]

1. Report to Congress on DOT's long-term (minimum 5-year) strategy for improving rail safety, including annual plans and schedules for achieving specified statutory goals, to be submitted with the President's annual budget. *(Sec. 102). Submitted with the President's budget for fiscal year 2011.*

2. Report to Congress on the progress of railroads' implementation of PTC. *(Sec. 104). Submitted in August 2012.*

3. Conduct study to evaluate whether it is in the public interest to withhold from discovery or admission, in certain judicial proceedings for damages, the reports and data compiled to implement, etc., a required risk reduction program. *(Sec. 109). Submitted on Oct. 21, 2011.*

4. Report to Congress on (a) "the effectiveness of any [hours of service] pilot project pursuant to a waiver" under 49 U.S.C. § 21108(a), (b) the status of all other waivers granted under that provision, and (c) recommendations for amendments to the hours of service laws. [8] *(Sec. 110). Submitted on Oct. 20, 2014.*

5. Evaluate and review current local, State, and Federal laws regarding trespassing on railroad property, vandalism affecting railroad safety, and violations of highway-rail grade crossing warning devices. *(Sec. 208(a)). Posted on FRA's Web site in 2009.*

6. Report to Congress on the results of DOT research about track inspection intervals, etc. *(Sec. 403(a)-(b)). Submitted on May 2, 2011.*

7. Conduct study of methods to improve or correct passenger station platform gaps *(Sec. 404). Submitted on Jan. 10, 2011.*

8. Report to Congress detailing the results of DOT research about use of personal electronic devices in the locomotive cab by safety-related railroad employees. *(Sec. 405). Submitted May 27, 2010.*

9. Report to Congress on DOT research about the effects of repealing a provision exempting Consolidated Rail Corporation, etc., from certain labor-related laws (45 U.S.C. § 797j). *(Sec. 408). Submitted on May 26, 2011.*

10. Report to Congress on the results of DOT research about exposure of railroad employees and others to radiation. *(Sec. 411). Submitted on Jan. 27, 2011.*

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[7] Mandates for four individual reports/studies remain open. Sec. 108(e) contingently requires two studies. These studies are not yet due because the contingencies (two specified hours of service "pilot projects of sufficient size and scope to analyze" specified "practices . . . to reduce fatigue") have not yet arisen, as FRA must receive requests from railroads and rail labor organizations in order to conduct the pilot projects that FRA must study. FRA has not received any requests, but continues to encourage participation. Sec. 402 requires a study of whether additional certification programs are necessary, to be submitted within 6 months after promulgating the training standards required by Sec. 401; FRA has begun the study, having published the training standards final rule on Nov. 7, 2014. Sec. 703 requires a non-safety study that is being handled by the Office of the Secretary of Transportation and the Department of Energy.

[8] FRA has fulfilled this mandate unless and until a railroad conducts an additional pilot project under Sec. 110 of RSIA. If an additional such pilot project that occurs, another report to Congress will become due.

11. Report to Congress on DOT study on the expected safety effects of reducing inspection frequency of diesel-electric locomotives in limited service by railroad museums. *(Sec. 415). Submitted on Jul. 27, 2010.*

12. Report to Congress on model plans and recommendations, to be developed through a task force to be established by DOT, to help railroads respond to passenger rail accidents. *(Sec. 503). Submitted on Apr. 20, 2011.*

QUESTIONS FOR THE WITNESSES
THE HONORABLE MICHAEL CAPUANO
SUBCOMMITTEE HEARING ON
"OVERSIGHT OF ONGOING
RAIL, PIPELINE, AND HAZARDOUS MATERIALS RULEMAKINGS"
APRIL 14, 2015

The Honorable Sarah Feinberg, Acting Administrator, Federal Railroad Administration

[1.] A *New York Times* editorial published on March 12, 2015, raised concerns about the lack of federal oversight over 100,000 railroad bridges in the U.S. The FRA reported to Committee staff that there are only eight bridge safety specialists at FRA -- six positions are filled, two are vacant. By our calculations, that would mean one bridge safety specialist is responsible for 12,500 bridges.

What is the FRA doing to ensure bridge safety? Does FRA inspect all railroad bridges, and if so, how often? If not, how does FRA choose which bridges to inspect? How often does FRA evaluate individual railroad bridge safety programs? What additional resources does FRA need to ensure bridge safety? Since no information is provided on bridges (such as the name of the owner and number to call), what should the public do if they are concerned about the safety of a particular bridge?

Ms. Feinberg's Response: The FRA has not been given the authority, nor have we been provided with the resources necessary, to inspect more than a small portion of railroad bridges. Our authority allows us only to perform auditing and oversight of the bridge programs of individual railroads.

Section 417 of the Rail Safety Improvement Act of 2008 (RSIA) (49 U.S.C. 20103) required the Secretary of Transportation to promulgate a regulation requiring "*owners of track* carried on one or more railroad bridges to adopt a bridge safety management program" meeting certain specific minimum requirements. (Emphasis added.) The RSIA also required the Secretary to direct "bridge experts to obtain copies of the most recent bridge management programs of each railroad within the expert's areas of responsibility, and require that experts use those programs when *conducting bridge observations*." *Id.* (emphasis added). Finally, the RSIA required the Secretary to establish a program to periodically review bridge inspection and maintenance data from "railroad carrier bridge inspectors and FRA bridge experts." *Id.* The Secretary delegated these responsibilities to the Administrator of FRA. 49 C.F.R. 1.89. In response, FRA promulgated the Bridge Safety Standards (Standards), *see* 75 Fed. Reg. 41,282 (July 15, 2010) and 49 C.F.R. part 237.

Most railroad bridges are privately owned by railroads. Per Congress' directive in the RSIA, the regulation places the responsibility for railroad bridge safety on the track owner, not the bridge owner. If someone other than the track owner owns a railroad bridge, the track owner still must ensure that it is safe. And, FRA also has bridge experts to "conduct bridge observations" and review "the bridge management programs" of the railroads precisely as the RSIA mandated.

FRA takes this responsibility for oversight of bridge management programs seriously. Although FRA does not have the resources to conduct observations of all railroad bridges (just as it does not have the resources to inspect every segment of track or every railcar), it conducts observations of, on average, approximately two percent of railroad bridges annually. FRA believes this is providing adequate oversight because bridge failures are very rare.

FRA also performs audits of the owners of the track on the railroad bridges (which, in most cases, are the operating railroads) compliance with the mandate to adopt bridge management programs. Those FRA audits ensure that the bridges are being inspected on a regular basis (no less than once each calendar year) by competent railroad bridge inspectors who are formally designated to authorize or restrict the operation of railroad traffic over a bridge according to its immediate condition or state of repair.

According to the railroad classification data the railroads provided to FRA, 775 regulated railroads potentially fall under FRA's Standards. Since the Standards became effective with a staggered applicability schedule (applicable to Class I carriers first), FRA's bridge specialists have examined the bridge management programs of all the large railroads and continue to evaluate smaller railroads' plans to ensure the railroads have adopted programs meeting the minimum requirements. FRA estimates the railroad bridge management programs it has reviewed thus far using this approach cover more than two-thirds of the Nation's railroad bridges. Moreover, FRA has prioritized special concerns or complaints about specific bridges in most cases. In addition, FRA has (1) reviewed samples of inspection reports to determine whether the inspection reports are accurately documenting bridge conditions and (2) monitored whether railroads are ensuring that load limits were being observed to prevent damage or failure due to overweight or over-dimension shipments.

FRA recognizes that adding more field bridge safety specialists would certainly have the positive effects of increasing the number of railroad bridge management programs that it can review and the number of bridge inspection reports it can audit.

In addition, if a member of the public is concerned about the safety of a particular railroad bridge, FRA recommends that the person either call or write FRA, describing the location of the bridge and the safety concern as specifically as possible. FRA maintains Hot Line numbers for each Region that are available on the FRA Web Site at http://www.fra.dot.gov/Page/P0244. FRA's Web site at http://www.fra.dot.gov/app/violationreport also provides a way to email a complaint to FRA. If concerned about what appears to be an immediate emergency situation, the person should contact the railroad, if known, or else call "911" on the telephone. FRA will investigate the complaint and take enforcement action if warranted.

[2.] What is FRA doing to ensure railroad tunnel safety? How many inspection staff are responsible for evaluating the safety of railroad tunnels and/ or the railroads' tunnel safety programs?

Ms. Feinberg's Response: FRA has regulations on a wide range of subjects that cover the gamut of the railroad safety disciplines--track in railroad tunnels, signal and train control in tunnels, passenger train emergencies in tunnels, railroad equipment operated through tunnels, crews operating trains through tunnels, and hazardous materials shipments carried through tunnels, etc. **However, FRA has no regulations specifically governing railroad tunnel inspection or maintenance.** Section 414 of the RSIA, Tunnel Information, requires railroads to make information on certain tunnels available to communities if requested but does not give FRA responsibility to oversee compliance.

FRA Bridge & Structures Specialists do not inspect tunnels unless we receive a complaint from the public or when an FRA track inspector notices something of concern. FRA does not have a tunnel safety

management program. Although FRA does not have a database of tunnel observations, we do have a Railroad Inspection Information System Activity Code ("BTNL") that FRA inspectors use when they observe an issue with a tunnel, such as loosened structures, bad drainage, or spalling, and our database can be searched for that BTNL code. Tunnel concerns based on FRA's observations are rare.

[3.] After the February derailment of a CSX crude oil train in West Virginia, you raised concerns about inaccurate information contained on the shipper's Safety Data Sheet (SDS) that was provided to emergency responders and federal investigators at the accident scene. The SDS is supposed to provide the characteristics of the material being transported, including flammability. Please talk about what you found, what your concerns are, and how they can be addressed in the future.

Ms. Feinberg's Response: Ensuring that first responders have accurate and timely information regarding the nature of hazardous materials involved in a derailment is an essential component of a successful emergency response operation, such as the one that took place after the derailment of a crude oil train in Mount Carbon, West Virginia. Shippers and carriers are responsible for ensuring that accurate and complete emergency response information for any hazardous material is immediately available for use at all times during transportation. At a minimum, the information must include the elements set forth in the Hazardous Material Regulations at 49 C.F.R. part 172, subpart G, including a description of the hazardous material, immediate hazards to health, risk of fire or explosion, immediate precautions to be taken in the event of an accident or incident, immediate methods for handling fires, initial methods for handling spills or leaks, and preliminary first aid measures; and a 24-hour telephone number for immediate access to product information. A safety data sheet is one form of emergency response information that is permitted to be used to comply with the rule provided that it contains all of the required elements.

At the time of this hearing, FRA and PHMSA were working on a number of actions that were completed April 17. As one example, PHMSA issued a safety advisory reminding carriers and shippers of the specific types of information that they must make immediately available to emergency responders under the requirements of the Hazardous Materials Regulations, as I've just described. 78 Fed. Reg. 22,781 (Apr. 23, 2015). That safety advisory notice was prompted by the Mount Carbon derailment and it reminds all shippers and carriers of the emergency response information requirements that apply to all hazardous materials. We will closely monitor the industry's progress in responding to the safety advisory.

One primary purpose of the April 17 safety advisory is to remind shippers of their responsibility to provide accurate emergency response information that is consistent with both the information provided on the shipping paper and the material transported. Ensuring that our Nation's emergency responders have the information they need to protect themselves and the public is of vital importance to FRA and the Pipeline and Hazardous Materials Safety Administration (PHMSA). FRA's investigation of the accident in Mount Carbon is ongoing, and our determination about compliance with safety regulations, including the requirement to provide accurate and timely emergency response information, is not yet conclusive. In the Mount Carbon accident, the information available suggests Whiting Oil's SDS was inconsistent with the information on the shipping paper.

As another example, FRA and PHMSA issued a safety advisory requesting that specific information regarding rail shipments of flammable liquids be made readily available to investigators: information on the train consist, including the train number, locomotive(s), locomotives as distributed power, end-of-train device information, number and position of tank cars in the train, tank car reporting marks, and the tank car specifications and relevant attributes of the tank cars in the train; waybill (origin and destination) information; the Safety Data Sheet(s) or any other documents used to provide comprehensive emergency

response and incident mitigation information for Class 3 flammable liquids; and results of any product testing undertaken prior to transportation that was used to properly characterize the Class 3 flammable liquids for transportation (initial testing results from any analysis of product sample(s) (taken prior to being offered into transportation) from tank car(s) involved in the derailment; date of acceptance as required to be noted on shipping papers under 49 C.F.R. 174.24; if a refined flammable liquid is involved, the type of liquid and the name and location of the company extracting the material; the identification of the company having initial testing performed (sampling and analysis of material) and information on the lab (if external) conducting the analysis; name and location of the company transporting the material from well head to loading facility or terminal; name and location of the company that owns and that operates the terminal or loading facility that loaded the product for rail transportation; and name of the railroad(s) handling the tank car(s) at any time from point of origin to destination and a timeline of handling changes between railroads. See 78 Fed. Reg. 22,778 (Apr. 23, 2015).

In addition, FRA is continuing to work with the Association of American Railroads (AAR) to develop a formal process by which this specific information on high-hazard flammable trains becomes available to both emergency responders and investigators within 90 minutes of initial contact with an investigator. To advance the process and achieve a positive outcome, FRA has scheduled a meeting on July 6, 2015, with AAR and representatives of the American Petroleum Institute, American Chemistry Council and Renewable Fuels Association.

[4.] Following a 2005 incident involving two Canadian National freight trains which collided head on in Anding, Mississippi, the NTSB recommended that the FRA and PHMSA develop regulations to require that railroads immediately provide to emergency responders accurate, real-time information regarding the identity and location of ALL hazardous materials, including poisonous-by-inhalation hazardous materials, on a train. The recommendation is designated by the NTSB as "Open- Unacceptable Action" by FRA and PHMSA. What are FRA and PHMSA doing to require this for ALL hazardous materials shipments, not just crude oil and ethanol?

Ms. Feinberg's Response: Sharing access to the real time information to our state and local agencies, and emergency responders needed to keep our communities safe is imperative. As I stated above, the PHMSA safety advisory notice, the joint FRA-PHMSA safety advisory, and the FRA's April 17, 2015, letter to AAR all address the issue of making specific information readily available to investigators. These recent actions by FRA and PHMSA have focused on flammable liquids, as these are the most commonly shipped hazardous materials in the largest volumes, and recent accidents have highlighted the need for better information on these products for emergency responders. The existing detailed emergency response information requirements in the Hazardous Materials Regulations still apply equally to all hazardous materials, as PHMSA reiterated in its safety advisory notice. We continue to examine our current requirements and assess whether further regulatory changes or other actions need to be taken. PHMSA is also diligently working towards completion of research on a paperless hazard communications pilot program under its HM-ACCESS (Hazardous Materials Automated Cargo Communications for Efficient and Safe Shipments) initiative. In a February 24, 2015 letter to PHMSA, NTSB Chairman Hart indicated that he is encouraged that PHMSA and FRA are nearing the completion of the HM-ACCESS research project. Further, pending review of the pilot testing results, the Chairman classified the recommendation as "Open—Acceptable Response."

[5] The FRA has submitted a notice of proposed rulemaking (NPRM) to the Office of Management and Budget that would propose train crew staffing requirements to address the safety risks posed to railroad employees, the general public, and the environment. What is your concern with train crew staffing and what is the status of the NPRM?

Ms. Feinberg's Response: We believe that safety is greatly enhanced with the operation of a multiple-person crew. Given the importance of ensuring safe crew sizes for the operation of trains, and particularly trains carrying energy products, FRA asked the Railroad Safety Advisory Committee in 2013 to establish a working group to consider a two-person crew requirement and to attempt to reach a consensus on a proposed rule by April 1, 2014. As the working group did not reach a consensus, FRA proceeded with the crew-size rulemaking independently. Currently, FRA's draft NPRM is in clearance in the Executive Branch.

[6.] For more than a decade, the number of grade crossing collisions has been decreasing. However, that trend has begun to reverse. In FY 2014, the number of grade crossing incidents increased by nearly 13 percent over FY 2013 levels, and the number of fatalities at grade crossings increased by 6 percent. Overall, in FY 2014, grade crossing and trespassing fatalities accounted for 94 percent of all rail-related deaths. Please describe the roles of FRA and FHWA on grade crossing safety. What is FRA doing to improve grade crossing safety and what additional measures should Congress consider?

Ms. Feinberg's Response: Rail safety overall has improved. However, for decades trespassing and highway-rail grade crossing (grade crossing or crossing) incidents have accounted for more than 90 percent of all rail-related fatalities. FRA and sister agencies, such as the Federal Highway Administration (FHWA) and the Federal Motor Carrier Safety Administration (FMCSA), allocate resources and work with partners, such as State and local governments, law enforcement, and Operation Lifesaver, to eliminate hazards at railway-highway crossings.

FHWA, through the "Section 130 program," provides Federal funding to states for the elimination of hazards of railway-highway crossings, including the separation or protection of grades at crossings, the reconstruction of existing railroad grade crossing structures, and the relocation of highways to eliminate grade crossings. See 23 U.S.C. 130. As part of the Section 130 program, States are required to (1) conduct and systematically maintain a survey of all public grade crossings to identify crossings that may require grade separation, relocation, or protective devices and (2) establish and implement a schedule of projects for that purpose. FHWA also publishes the Manual on Uniform Traffic Control Devices, a compilation of national standards for all traffic control devices (including warning devices that can be implemented at or near grade crossings).

FMCSA addresses the role of motor carriers in crossing safety by regulating commercial motor vehicles that traverse grade crossings (*see, e.g.*, 49 C.F.R. parts 383 and 392). For example, FMCSA worked with PHMSA to issue a joint final rule that prohibits drivers who are subject to the Department's commercial vehicle safety rules from entering a grade crossing unless there is sufficient space to drive completely through the crossing without stopping. FMCSA is also committed to increasing grade crossing safety messages to the freight and passenger motor carrier industry as well as to its safety oversight and enforcement partners. To that end, FMCSA has established a comprehensive grade crossing safety Web site (http://www.fmcsa.dot.gov/safety/rail-crossing/highway-rail-grade-crossing-safety), which includes crossing safety information specific to the freight and passenger motor carrier industry. This includes the posted toll-free emergency numbers for the Class I railroads to facilitate the reporting of stalled vehicles or other safety problems at grade crossings by commercial motor vehicle operators. FMCSA has also developed a "7 Steps for Safety – Highway-Rail Grade Crossings" visor card, which has been widely distributed and is available for download.

My prepared testimony lists many rulemakings, reports, model State laws, guidance documents, and other actions that FRA has completed over the last several years to improve grade crossing safety and trespass

prevention. In earlier years, FRA prescribed regulations requiring the use of the train horn at crossings (49 C.F.R. part 222) and regulations establishing minimum standards for the maintenance of crossing warning devices (a subpart of 49 C.F.R part 234), issued model State laws against vandalizing or trespassing on railroad property, and a study on emergency notification systems for crossings. Last year, FRA published a final rule mandating that railroads provide additional grade crossing information to the U.S. DOT National Highway-Rail Crossing Inventory. Individual railroads and roadway owners provide data for the Crossing Inventory to form a composite record for each crossing. This composite record can be used to predict the likelihood of a collision at a specific crossing. Railroads are required to report certain information about the physical and operating characteristics of individual highway-rail grade crossings to the Crossing Inventory (such as the number of daily train movements and train speed) and to ensure that the information remains accurate. Thus, it is a database that States, local governments, railroads, and DOT can use to better assess the safety of such crossings and prioritize mitigation efforts.

Most recently, in the wake of recent incidents near or at grade crossings in California, New York, and North Carolina, FRA launched a multi-faceted campaign to enhance grade crossing safety. The first initiative of the campaign was geared towards law enforcement agencies, requesting that they increase their presence at grade crossings, issue more citations to drivers that violate traffic laws at crossings, and consider the rapid implementation of best practices for grade crossing safety. The initial phase of the campaign has been successful, with a number of law enforcement jurisdictions increasing their presence at grade crossings and writing substantially more citations to drivers at crossings. In New York, for example, the Metropolitan Transportation Authority Police Department issued six times as many citations during the first quarter of 2015 as they did for the same period last year. Most citations are being issued to drivers who drive around warning gates, stop on the tracks, or drive while distracted at grade crossings.

The second phase of the campaign includes a call to railroads, State DOTs, and rail authorities to use the U.S. DOT National Highway-Rail Crossing Inventory to focus their efforts on grade crossings with the highest likelihood of collisions, to evaluate the safety of their grade crossings and identify crossings that would benefit greatly from safety improvement, and to implement education and enforcement initiatives to improve grade crossing safety.

Subsequent phases of the campaign will include employing smarter uses of technology, increasing public awareness of grade crossing safety, including distracted driving, improving signage, working more closely in partnership with States and local safety organizations, as well as exploring how additional funding for grade crossing safety can be effectively utilized to improve safety outcomes.

In terms of additional legislation Congress should consider to advance grade crossing safety, FRA recommends adoption of the President's FY 2016 Budget. In the FY 2016 budget, FRA requests 16 grade crossing safety managers and 8 trespass prevention manager positions. These employees would conduct nationwide safety outreach with the trucking industry, communities, local planners, schools, and others to improve the safety of the nearly 130,000 public grade crossings. FRA also seeks funds to bring together trespass prevention experts from freight, commuter, and transit railroads to share and develop new prevention initiatives. Moreover, FRA requests new funds to implement a pilot program to provide targeted and sustained community outreach.

Additionally, the proposed $250 million Local Rail Facilities and Safety grant program will enable local communities to build grade crossing improvements and relocate rail lines from residential neighborhoods or other highly trafficked areas, among other critical improvements.

Finally, FRA advocates adoption of Sec. 9409(a) of the GROW AMERICA Act, which would authorize funding for the Secretary to conduct a study of the severity, frequency, and other

characteristics of railroad operations that block grade crossings. This study would allow FRA to gather enough information to make reasoned determinations of what action, if any, is necessary to address the issue. FRA assists communities and works with railroads in resolving complaints about railroad operations blocking grade crossings. These complaints are overtaking train horn noise as the top source of complaints to FRA. Passage of this provision would enable FRA to work with other DOT modal administrations, such as FHWA, to identify best practices of transportation development to avoid blocked crossing issues and to improve grade crossing safety.

[7.] In 2013, a Metro-North Railroad passenger train derailed in the Bronx in an area that was restricted to a maximum speed of 30 miles per hour (mph). The train was traveling at 82 mph when it derailed, killing four people and injuring 61 others. The NTSB found that the engineer had fallen asleep due to undiagnosed severe obstructive sleep apnea. The NTSB reiterated its 2011 recommendation that the FRA require railroads to medically screen employees in safety-sensitive positions for sleep apnea and other sleep disorders. Since 2011, the recommendation has been marked "Open-Unacceptable Response." What is FRA doing on this issue?

Ms. Feinberg's Response: Currently, FRA is working on a comprehensive notice of proposed rulemaking that would require intercity passenger railroads, commuter passenger railroads, Class I freight railroads, and all railroads that FRA determines to have inadequate safety performance to implement fatigue risk management programs that will identify fatigue-related safety hazards on their systems and mitigate the risks associated with those hazards. Mitigations may include providing opportunities for identification, diagnosis, and treatment of certain medical conditions, including sleep disorders. In addition, FRA has issued regulations that limit the hours a passenger train operator may work and that mandate the implementation of positive train control systems, technology that prevents over-speed derailments such as the December 2013, Bronx accident and certain other types of accidents often caused by human factors such as fatigue. See 49 C.F.R. part 228, subpart F, and part 236, subpart I, respectively. FRA is also exploring other authorities and measures it can use to address medically screening employees in safety-sensitive positions for sleep apnea and other sleep disorders.

In June 2012, FRA launched the Web site *The Railroader's Guide to Healthy Sleep* (http://www.railroadersleep.org/), which FRA and the John A. Volpe National Transportation Systems Center (Volpe Center) in Cambridge, Massachusetts, produced, in collaboration with experts in sleep health from the Harvard Medical School Division of Sleep Medicine and experts in educational media from the WGBH Educational Foundation. The Web site provides articles, videos, and illustrations to help railroaders sleep well and balance work-life commitments. The Web site also suggests practical steps railroaders may take to help combat fatigue and explains how to determine one's individual sleep needs and tune into normal daily ups and downs in alertness and sleepiness. Additionally, the Web site provides self-tests to assess one's sleep and learn the symptoms that may suggest a possible sleep disorder. The Web site also includes information on how to find a sleep specialist in one's geographic area.

FRA also continues to consider opportunities to partner with industry representatives and medical specialists in the railroad arena to develop guidance or other information to identify cost-effective methods and procedures for screening, diagnosing, and treating obstructive sleep apnea. Personal physicians who medically evaluate and provide treatment to locomotive engineers and conductors could then use that guidance in their private practices to help ensure the early detection and treatment of obstructive sleep apnea in their patients.

FRA believes these many initiatives have the potential to reduce the probability of accidents due to sleep disorders and other medical conditions that can cause fatigue and other impairments that affect an individual's alertness. FRA will respond to the NTSB recommendations regarding sleep disorders as it implements these multiple initiatives.

[8.] BNSF notified its customers of operational changes, effective March 25, 2015, which include (1) reducing speeds on all key trains (includes trains transporting toxic-by-inhalation hazardous materials) from 50 to 35 mph that operate through all municipalities with populations of more than 100,000 people; (2) increasing track inspections; (3) eliminating the use of all DOT-111 tank cars from service on the railroad within one year and unjacketed CPC-1232 cars from service within three years; and, (4) decreasing the threshold on wayside detectors to increase detection and removal of defective rail cars. The FRA recently took action to require a reduction in speed limits to 40 mph. Why not 35 mph as BNSF has implemented? Has the DOT considered requiring speed restrictions for "high consequence areas" (a term utilized by PHMSA, defined as areas above 50,000 in population and potentially impacting environmentally sensitive areas) instead of high-threat urban areas?

Ms. Feinberg's Response: Issued after the April 14 hearing, FRA's Emergency Order No. 30 (EO 30) imposes a 40-mph speed limit in High Threat Urban Areas (HTUAs) on trains transporting large quantities of any flammable liquid and containing any DOT-111 cars, including the newer CPC-1232[1] cars. FRA intended EO 30 as a stopgap measure to immediately address the risk of accidents involving trains transporting large quantities of flammable liquids until PHMSA's "Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains" (HHFT Rule), published May 8, is implemented. FRA based its decision to implement a 40-mph speed limit in HTUAs on an emergency basis after considering all available data and analyzing the potential impacts of alternatives to such a restriction (lower speed limits, speed limits across the entire rail network). FRA determined a speed limit of 40 mph in HTUAs was an appropriate speed limit to immediately impose on trains transporting large quantities of flammable liquids in areas where a derailment could cause an imminent hazard of death, personal injury, or significant harm to the environment.

EO 30 will stay in place until the effective date of the HHFT Rule on July 7, 2015. FRA notes that the HHFT Rule requires a combination of tank car enhancements, as well as operational controls (enhanced braking systems, routing requirements, and speed restrictions) that are, in part, dependent on the characteristics and robustness of the tank cars involved. Recognizing that speed is not the sole factor that affects the safe transportation of large quantities of flammable liquids by rail, and to comprehensively address the risks such transportation presents, the HHFT Rule also adopts safety improvements for the rail routing of HHFTs and the identification and classification of unrefined petroleum products, such as crude oil. DOT believes that implementation of this final rule will avoid or greatly mitigate consequences of derailments involving large quantities of flammable liquids.

[9.] In 2005, a northbound Norfolk Southern train traveling through Graniteville, South Carolina, encountered an improperly lined switch that diverted the train from the main line onto an industry track, where it struck an unoccupied, parked train. The collision derailed both locomotives and 16 of the 42 freight cars of the northbound train and the locomotive, as well as the locomotive and 1 of the 2 cars on the parked train. Among the cars on the northbound train were three tank cars containing chlorine, one of which was breached, releasing chlorine gas. The train engineer and 8 other people died as a result of chlorine gas inhalation. About 554 people having respiratory difficulties were taken to local hospitals. Following the accident, the NTSB recommended that FRA require railroads to provide emergency escape breathing apparatus for

[1] "CPC" stands for Casualty Prevention Circular. A CPC-1232 car is an improved type of DOT 111 car.

all crewmembers on freight trains carrying toxic-by-inhalation hazardous materials. In 2008, Congress required FRA to implement the NTSB recommendation; yet no action has been taken. What is the status of the Congressional mandate and when can we expect a final rule?

Ms. Feinberg's Response: As an initial matter, it is important to note that FRA has issued a number of RSIA-mandated regulations including requiring the implementation of positive train control systems on main lines carrying toxic-by-inhalation/poisonous-by-inhalation hazardous material (PIH material), and for decades FRA has helped PHMSA or its predecessor agency to develop and craft improved tank car crashworthiness regulations and routing regulations to prevent the occurrence, and minimize effects, of train accident-related releases of PIH material.

On the specific question about the status of the emergency escape breathing apparatus (EEBA) rulemaking, FRA issued a notice of proposed rulemaking on the provision of EEBAs on October 10, 2010. That rulemaking proposed equipping each train crewmember in the locomotive cab with an atmosphere-supplying EEBA when the crew is operating a freight train transporting a hazardous material posing an inhalation hazard if there was a release during an accident. This proposal would comply with the RSIA provision requiring EEBAs. However, the estimated 10-year cost associated with the proposed rulemaking was $73.9-81.9 million, while the estimated benefits were $13.5 million. (i.e., the ratio of the proposed costs to the proposed benefits was approximately 5.5-6.0 to 1.) Therefore, FRA staff continues to review cost effective methods of implementing the mandate.

House Committee on Transportation and Infrastructure
Subcommittee on Railroads, Pipelines and Hazardous Materials
"Oversight of the Ongoing Rail, Pipeline, and Hazardous Materials Rulemakings"
2167 Rayburn House Office Building
April 14, 2015

Questions for the Record
Federal Railroad Administration
From Congressman Jared Huffman

[1] During the ongoing rulemaking process for improved rail and rail car safety regulations, what has FRA concluded is the primary focus for reducing derailments and oil tank car accidents? Has the FRA taken a systematic look at the relationship between the loosening of end cap screws on freight rail cars, bearing failures, and derailment accidents?

Ms. Feinberg's Response: To answer the first part of your question, recent derailments and oil tank car accidents appear to have resulted from multiple causes, not a single cause; so FRA and DOT are taking a holistic approach to them. My testimony highlights some of the many actions we've taking so far.

Here are two more examples. FRA has implemented two programs to improve track safety nationwide, with a focus on crude oil routes: the rail integrity program and FRA track inspections of crude oil routes using our Automated Track Inspection Program (ATIP) track geometry cars. First, as a result of FRA's 2014 amendments to the Track Safety Standards concerning rail integrity, track owners must use a performance-based model for their rail inspections based on the amount of detected internal rail flaws and rail failures within a designated segment. An increase in rail flaws and rail failures requires the track owner to increase rail inspections. The amendments also allow FRA to get data on the detected rail flaws and rail failures it uploads to a database FRA inspectors can access and use to identify areas where a more focused inspection should be performed. Second, FRA's ATIP cars have inspected more than 6,000 miles of track that FRA has identified as crude oil routes. These routes are located in the central and midwestern U.S.; of these, FRA has surveyed the track of eight railroads (four Class I railroads and four short line or regional railroads).

Currently, all options are on the table. As I described earlier, after this April 14 hearing, DOT issued a final rule establishing enhanced tank car safety standards as well as operational and other requirements for trains carrying large quantities of flammable liquids such as crude oil. DOT's analysis indicates that 40 mph is a speed that will avoid or greatly mitigate consequences of derailments involving flammable liquids.

To answer the second part of your question, FRA considers the interaction of all car components when conducting accident investigations and while conducting regular mechanical inspections. FRA and PHMSA did not specifically consider bearing and axle defects when developing the recent rulemaking related to enhanced tank cars because none of the recent accidents related to the transport of flammable liquids involved overheated bearings. Moreover, none of the accidents over the last 5 years involved bearing or axle defects could be directly linked or attributable to loose bearing caps. Cold breaks, either between the wheel seats or in the journal area, are generally associated with material flaws in the axle, not loose cap screws. Bearing failures due to overheating may be due to a variety of causes and sources, only one of which might be loose cap screws. However, as noted below, it is extremely difficult to pinpoint whether loose bearing caps are directly related to any bearing-related accident.

[2] [a] Do you have any current statistics on how many freight and passenger train derailments have taken place over the past five years that have been attributable to bearing failures?

Ms. Feinberg's Response: While no exact number can be determined from available data, loose roller bearing cap screws are potentially associated with 4 or fewer accidents per year. However, as noted below, it is extremely difficult to pinpoint whether loose bearing caps are directly related to any bearing-related accident. FRA's accident reporting guide requires several different types of axle and bearing failures to be reported.

Cold breaks, either between the wheel seats or in the journal area, are generally associated with material flaws in the axle, not loose cap screws. Failures due to overheating may come from a variety of sources, one of which could be loose cap screws. However, as noted below, it is extremely difficult to pinpoint whether loose bearing caps are directly related to any bearing-related accident.

The data showed only two accidents directly attributed to overheated bearings in the last five years. Data also showed an additional 20 accidents within that five-year period that were attributed to "Other axle and journal bearing defects." None of those accidents could be directly linked or attributed to loose cap screws. Although it is possible that they were a factor in some of those accidents, it is extremely difficult to pinpoint whether loose bearing caps are directly related to any bearing-related accident.

[b] Has the FRA investigated whether these train derailments were the result of failed roller bearings caused by wheel set cap screws that came loose?

Ms. Feinberg's Response: Derailments due to bearing failure usually occur after heat created by friction has built up to the point that the bearing/axle assembly melts, destroying any evidence of how the failure started. Basic information about when and where the bearings were assembled to the axle can usually be gathered from the locking plate on the bearing cap at the other end of the axle, but details of the exact failure mechanism are lost due to the extreme heat at the point of failure.

[3.] If a safety standard were in place that required each end cap unit to withstand 100 pound reverse torque of resistance, would such a standard improve the safety of rail cars?

Ms. Feinberg's Response: FRA's Railroad Freight Car Safety Standards (49 C.F.R. 215.115(a)) state, "A railroad may not place or continue in service a car, if that car has-- . . . (2) A roller bearing with a—(i) Loose or missing cap screw[.]" The railroad industry, through the Association of American Railroads (AAR), ensures compliance with that regulation by requiring that bearing cap screws be torqued at assembly to between 290 and 490 foot-pounds, for most bearing types. The static torque required to loosen those cap screws is approximately equal to the torque of application, so the cap screws already have greater resistance to reverse torque than your question asked about.

Experience has shown, however, that heavy vibrations in the rail environment require that additional steps be taken to prevent the cap screws from vibrating loose. To counter that possibility, AAR rules require that a locking plate with bendable tabs be inserted under the screws, and the tabs be bent up against the flat sides of the cap screw head to prevent vibration-induced loosening. These AAR-required tabs add additional resistance to reverse torque. However, their primary benefit is to provide resistance to vibrational loosening, since there is no operating condition under which reverse torque is actually applied to the cap screws, but vibration is constantly present.

FRA did not adopt the AAR standard, and does not reference the suggested "100 pound" standard in FRA regulations. In the past a company that produced a patented product necessary to prove compliance with this hypothetical requirement urged FRA to revise FRA regulations to require adoption of this

standard. In fact, all the bearings that the company tested with less than 100 foot-pounds of reverse torque had been removed from service because the wheels had reached the end of their service life. There is no evidence that the current AAR practice would cause a bearing failure or derailment. The AAR and bearing manufacturers agree that the current locking plate is adequate, and works well.

WRITTEN STATEMENT
OF
TIMOTHY P. BUTTERS
ACTING ADMINISTRATOR
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION

BEFORE THE
SUBCOMMITTEE ON RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

IMPLEMENTING THE MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT AND THE PIPELINE SAFETY, REGULATORY CERTAINTY, AND JOB CREATION ACT OF 2011

April 14, 2015

Mr. Chairman, Ranking Member Capuano, and Members of the Subcommittee, thank you for inviting me to testify today on the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration's (PHMSA) oversight of the Nation's hazardous materials transportation network, as well as the agency's progress in implementing title III of the Moving Ahead for Progress in the 21st Century Act, the Hazardous Materials Transportation Safety Improvement Act of 2012 (MAP-21), and the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (Pipeline Safety Act).

On November 30, 2004, the 103rd Congress passed the Norman Y. Mineta Research and Special Programs Improvement Act (Public Law 108-426) to authorize the formation of PHMSA, designating safety as the agency's highest priority. Ten years later, PHMSA continues to champion its safety mission: to protect the American people and environment from the risks of hazardous materials transportation by all modes, including rail, vessel, aircraft, highway and pipeline.

A supply chain consists of a few key segments: the raw materials supplier, manufacturers and end consumers. In order for these goods to get from one phase to the next, they must be transported safely – this is where PHMSA comes in. Our role is to set safety standards for the transport of these products. Shippers and carriers move more than 6.1 million tons of hazardous materials, valued at about $4 billion, through 886 million miles on the nation's multi-modal transportation network each day, according to the Bureau of Transportation Statistics Commodity Flow Survey. Additionally, energy products like natural gas and oil move through 2.6 million miles of pipelines, most of which are buried underground.

PHMSA is a unique agency housed in the U.S. Department of Transportation because it centers on the safe movement of hazardous materials, making it an inherently multi-modal transportation agency. Regulated hazardous materials include a diverse range of products that the general public and the regulated industry use daily (e.g., household cleaning products, gasoline). The hazardous

materials placards, labels and marking displayed on rail cars, cargo tank motor vehicles and hazardous materials packagings are a visual example of PHMSA's regulations at work.

PHMSA executes its safety mission on five simultaneous fronts – through regulations, inspections, research, funding, and education (outreach and training). Developing, issuing and enforcing safety regulations are a significant portion of PHMSA's work; however, PHMSA also conducts research, funds State regulatory authorities, emergency responders and representatives of communities affected by hazardous materials transportation, and educates stakeholder groups – including the general public – through outreach initiatives and training.

PHMSA has two primary safety programs: the Office of Hazardous Materials Safety (OHMS) and the Office of Pipeline Safety (OPS). There are about 450 Federal employees working for PHMSA; more than 140 inspectors work in the pipeline safety program, with an additional 50 inspectors in the hazardous materials safety program. Because hazardous materials move through various transportation modes, PHMSA's inspectors represent one of several Department agencies that inspects and enforces compliance with the Hazardous Materials Regulations (HMR).

Even before PHMSA was organized in 2005, the Offices of Pipeline Safety and Hazardous Materials Safety were enforcing and updating Federal transportation regulations. Under their oversight, hazardous materials transportation – including transportation pipelines – has been incredibly safe for a long time. This safety record has been demonstrated through consistent declines in deaths and major injuries attributed to hazardous materials transportation incidents. Pipeline incidents with death or major injury have declined an average of 10 percent every three years between 1988 and 2014, despite increases in risk exposure measures like population, pipeline mileage, aging infrastructure and pipeline ton-miles. Although the sector has grown safer over time, we continue to take action, especially in the face of tragedies like those in San Bruno and Allentown. As of April 8, 2015, PHMSA satisfied five pipeline safety recommendations from the National Transportation Safety Board (NTSB), bringing down our count of open audit recommendations to 18.

In terms of all other hazardous materials transportation modes, there has also been an overall downward trend in the number of incidents involving death or major injury, declining an average of approximately 10 percent every eight years since 1988. The relatively low number of annual deaths and injuries is noteworthy, particularly considering that the number of hazardous materials shipments have dramatically increased over the years. Due to more shale activity, specifically, the 50% jump in crude oil production since 2008, our Nation is poised to become the world's largest energy producer, placing unprecedented demand on freight transportation - especially railroads. In fact, the Association of American Railroads estimated that a half million Class I carloads moved crude oil throughout the country last year alone. The value of freight is expected to grow by 125% to $39 trillion over the next thirty years, and more demand for U.S. exports means American jobs. A thriving transportation sector is a vital component of our economy, but we can't enjoy the benefits without first and foremost ensuring transportation safety.

Regrettably, there's been a recent spike in derailments of trains carrying crude oil. We have heard your concerns, and I'd like to reiterate that the entire Department shares your concern and urgency on this issue. Additionally, on April 6, 2015, PHMSA received four new recommendations for ensuring the safe rail transportation of flammable liquids from the NTSB.

We have taken a comprehensive approach to crude by rail safety that includes prevention, mitigation, and emergency preparedness and response. We are in the final stages of developing a high-hazard flammable train rule to improve the safety of trains carrying flammable liquids. The Department is also considering additional actions to further improve rail transportation safety.

Many stakeholders continue to believe that, given the scope and importance of our mission, PHMSA needs to grow as an agency and be better resourced. The President's FY 2016 budget provides a framework to enable PHMSA to perform its primary functions and keep pace with the changes occurring in the hazmat transportation sector. The FY2016 budget proposal requests $289 million – a $44.2 million increase over the amount enacted in FY 2015 to advance PHMSA's capacity to execute its safety mission by investing in information technology modernization plans such as the National Pipeline Information Exchange to map the nation's pipelines. As I mentioned before the House Appropriations committee last month, we need that budget to keep up and keep the American public safe.

I served as PHMSA's Deputy Administrator for four years prior to becoming PHMSA's Acting Administrator in October of 2014. With more than 25 years of emergency response experience – including serving as an assistant fire chief – I not only understand the opportunities and challenges that come along with today's changing hazmat transportation sector; I have also experienced first-hand the benefits of strong safety standards and protocols. They protect not only the American public and industry, but also the brave women and men who serve as emergency responders.

My testimony today will provide an update of our progress in implementing Congressional safety mandates (e.g., MAP-21 and Pipeline Safety Act), in addition to how continuing this progress will further improve hazardous materials transportation safety.

I. MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT (MAP -21

Enacted on July 6, 2012, MAP-21 provides PHMSA's Office of Hazardous Materials Safety with important new tools to bolster compliance with the hazardous materials laws and regulations and enhance emergency response capabilities. MAP-21 authorized or mandated numerous rulemakings, reports, and programmatic changes within the Office of Hazardous Materials Safety. PHMSA finalized its strategy to implement the Act on August 31, 2012 and a supporting Action Plan on October 10, 2012. The Action Plan assigned responsible staff to 13 areas, covering 32 separate provisions. As a result, PHMSA has met established timelines for more than 90 percent of the 32 provisions. This is significant given the many challenges and emerging issues that PHMSA has faced over the same period. All of the following MAP-21 information pertains to PHMSA's Office of Hazardous Materials Safety.

The MAP-21 mandates are organized below into three categories:

1. Rulemakings;
2. Studies and Reports to Congress; and

3. Other Mandates and Programmatic Changes.

Rulemakings

To date, the Office of Hazardous Materials Safety has finalized four of the six regulatory actions required under MAP-21. The Office of Hazardous Materials Safety has already initiated the two remaining actions, with plans to finalize them by the end of the fiscal year.

The Office of Hazardous Materials Safety has finalized the following rules:

1. August, 7, 2014: Published final rule HM-258A (79 FED. REG.46194), "Failure to Pay Civil Penalties."
2. October 2, 2013: Published final rule HM-258B (78 FED. REG. 60755), "Enhanced Enforcement Procedures - Resumption of Transportation."
3. April 17, 2013: Published final rule HM-258 (78 FED. REG. 22798), "Revision on Maximum & Minimum Civil Penalties."
4. October 5, 2012: Published final rule HM-244E (77 FED. REG. 60935) to revise PHMSA's preemption authority.

Failure to Pay Civil Penalties (HM-258A Final Rule)

MAP-21 directed PHMSA to issue regulations by October 2014 to require a person who is delinquent in paying civil penalties for a regulatory violation(s) to cease any and all activity regulated under the Federal hazardous materials transportation law until payment has been made or until an acceptable payment plan has been arranged. On September 24, 2013, PHMSA published a Notice of Proposed Rulemaking (NPRM) (78 Fed. Reg. 58501) addressing the MAP-21 mandate to prohibit hazardous materials operations by persons delinquent on payment of civil penalties. The comment period for the NPRM closed on November 25, 2013. The rule was finalized and published on August 8, 2014 - two months before the October 2014 deadline.

Open Package – Resumption of Transportation (HM-258B Final Rule)

PHMSA met MAP-21's October 2013 deadline to codify procedures for an agent of the Secretary of Transportation to open packages of perishable hazardous materials and to provide notification to the responsible party that an agent has performed a safety inspection or investigation. Additionally, MAP-21 stressed that inspectors be provided appropriate training and equipment to open and close a packaging in accordance with the HMR. The Department's enhanced inspection, investigation, and enforcement procedures were previously established through notice and comment rulemaking and thoroughly addressed the hazardous material transportation matters identified by Congress. The rule also ensures transparency and consistency for hazardous materials inspectors across all modes of transportation. PHMSA published the final rule on October 2, 2013.

Update of Published Guidelines on Civil Penalty Amounts (HM-258 Final Rule)

PHMSA works to ensure that regulated entities are aware of and understand Federal safety regulations so that they comply the first time, every time; however, PHMSA will continue to hold accountable those found in violation of Federal transportation safety regulations.

MAP-21 removed the minimum penalty amount for a violation and retained the maximum penalty of $450 for a training violation(s). Additionally, it raised the maximum penalties for persons who knowingly violate a Federal hazardous materials transportation law, regulation(s), order(s), special permit(s) and/ or approval(s) and persons who knowingly violate a Federal hazardous materials transportation law(s), regulation(s), order(s), special permit(s) and/ or approval(s), resulting in death, serious illness, severe injury or substantial destruction of property to $75,000 and $175,000, respectively. PHMSA adopted these changes in final rule HM-258 on April 17, 2013.

Revision of Preemption Authority (HM-244E Final Rule)

The Federal hazardous materials transportation law contains strong preemption provisions. Under 49 U.S.C. § 5125, a requirement of a State, political subdivision of a State, or Indian tribe is generally preempted if complying with the non-federal regulation and complying with the Federal hazardous materials transportation law or regulations is not possible; or the non-federal requirement is an obstacle to carrying out the Federal hazardous materials transportation law or regulations. Further, unless it is authorized by another federal law or a waiver of preemption from the Secretary of Transportation, a non-federal requirement applicable to any one of several specified covered subjects is preempted if it is not substantively the same as the Federal hazardous materials transportation law or regulations.

MAP-21 amended the preemption language for the covered subject relating to the written notification of an unintentional release of a hazardous material in transportation. As such, PHMSA revised the implementing regulations for the preemption authority to reflect this amendment. PHMSA adopted these changes in final rule HM-244E on October 5, 2012.

Standard Operating Procedures for Handling Applications for Special Permits and Objective Criteria for Evaluating Special Permits (HM-233E Proposed Rulemaking)

MAP-21 required PHMSA to issue regulations that establish: (1) Standard operating procedures to support the administration of the Special Permits and approvals, and (2) objective criteria to support the evaluation of Special Permits and approval applications. PHMSA published an NPRM on August 12, 2014, and the comment period ended on October 14, 2014. Stakeholders have expressed an interest in resolving Special Permit and approval processing concerns through rulemaking, commenting on whether an applicant's fitness needs to be assessed to perform a requested task, and suggesting several alternatives. MAP-21 mandated a final rule by October 2014. PHMSA has reviewed the comments and is drafting the final rule with plans to finalize it by the summer of 2015.

PHMSA has initiated the following rulemaking proposals, with a goal of finalizing them by the end of the year:

1. January 30, 2015: Published an NPRM in HM-233F (80 FED. REG. 5339), "Special Permit Incorporation."
2. August 12, 2014: Published an NPRM in HM-233E (79 FED. REG. 47047; 79 FED. REG. 54676), "Special Permit and Approvals Standard Operating Procedures and Evaluation Process."

Incorporation of Special Permits into the HMR (HM-233F Proposed Rulemaking)
PHMSA's Office of Hazardous Materials Safety develops, issues and updates the HMR, which establish safety standards for the movement of hazardous materials by rail, vessel, aircraft and highway. Under the HMR, the Office of Hazardous Materials Safety is authorized to review and grant, as appropriate, applications for Special Permits. A Special Permit authorizes alternative ways to meet safety requirements, as long as the Office of Hazardous Materials Safety has determined that such alternatives achieve safety levels equal to or greater than the HMR's safety levels.

MAP-21 required an initial review and analysis of the Special Permits that have been in continuous effect for a 10-year period to determine which ones may be converted into the HMR. MAP-21 mandates a final rule by October 2015.

Although, MAP-21 limited the review and analysis to Special Permits with a lifespan of greater than 10 years, PHMSA determined that an initial review and analysis of all active Special Permits would be more beneficial because many Special Permits are interrelated. PHMSA published an NPRM on January 30, 2015; the comment period closes on March 31, 2015. The rulemaking is intended to grant wider access to the regulatory flexibility authorized through existing special permits and minimize renewal requests; thus streamlining the administrative review process and facilitating commerce while maintaining safety.

Continued Incorporation of Special Permits (HM-233E Proposed Rulemaking)
As just discussed, MAP-21 requires an ongoing review and analysis of Special Permits that have been in effect for more than 10 years. Based on this review and analysis, PHMSA must either institute a rulemaking to incorporate the Special Permits into the HMR or publish in the *Federal Register* its justification for why the Special Permits are not appropriate for incorporation into the regulations. MAP-21 mandates a rule annually, beginning October 2016. Therefore, PHMSA plans to conduct future reviews of Special Permits with a lifespan of greater than 10 years. PHMSA's ongoing review and analysis of Special Permits will use the same methodology and tools as the initial NPRM, outlined above. However, in future reviews, PHMSA will only focus on Special Permits that have been in effect for 10 or more years. PHMSA anticipates future analysis and review will be more streamlined due to the reduced volume of Special Permits to be evaluated. In the initial Special Permits incorporation NPRM, PHMSA plans to request comments

and supporting documentation for Special Permits that are suitable for incorporation in future rulemakings.

Studies and Reports to Congress

Hazardous Materials Emergency Preparedness Grant Report

The Hazardous Materials Grants Program (HM Grants Program) was a key focus area of MAP-21. The HM Grants Program is comprised of three types of grants:

1. Hazardous Materials Emergency Preparedness (HMEP) Grant ($21.8 million appropriated);
2. Hazardous Materials Instructor Training (HMIT) Grant ($4 million appropriated); and
3. Supplemental Public Sector Training (SPST) Grant ($1 million appropriated).

MAP-21 required PHMSA to submit a report to Congress by October 2013 providing a detailed accounting and description of the HMEP grant expenditures by each grant recipient, including the amount of, and purpose for each expenditure. In addition, MAP-21 imposed a biennial reporting requirement on a State, political subdivision of a State, or Indian tribe that levies a fee in connection with the transportation of hazardous materials. Before PHMSA may collect and report this information to Congress, it must receive OMB approval for the information collection pursuant to the Paperwork Reduction Act (PRA) (44 U.S.C. §§ 3501-3521). Once PHMSA obtains authorization to collect the information, grantees will be asked to submit quarterly and final reports with the required information. In accordance with PRA requirements, PHMSA published a 60-day *Federal Register* notice on December 4, 2013 (78 Fed. Reg. 72972). PHMSA published the 30-day *Federal Register* notice on September 26, 2014. PHMSA is expecting to include the information collected during fiscal year (FY) 2015 in a 2016 report to Congress.

We provided updates on our actions to comply with the MAP-21 requirements on HMEP grant expenditures in the FY12 Report to Congress and are drafting further updates to be included in the next annual update. PHMSA also provided clearer guidance to the grantees on allowable and unallowable activities, and we implemented a risk assessment tool to help us identify high risk/low performing grantees.

Paperless Hazard Communication Pilot Program

MAP-21 authorized PHMSA to conduct pilot projects to evaluate whether paperless hazard communications systems are effective and feasible in hazmat transportation operations. Per MAP-21, pilot project requirements state that at least one pilot project must be conducted in a rural area and the current statutory shipping paper requirements may not be waived. Moreover, in developing the pilot projects, PHMSA must consult with organizations representing fire and other emergency responders, law enforcement, and regulated entities. A report to Congress was due by

October 2014, covering the following: (1) a description and performance evaluation of each pilot project; (2) a safety and security assessment; (3) costs and benefits; and (4) a recommendation for incorporation into the HMR.

In order to initiate a pilot program, however, PRA requires PHMSA to obtain the Office of Management and Budget's (OMB) authorization to collect the additional information. Accordingly, PHMSA published a 60-day *Federal Register* notice on July 19, 2013 (78 FED. REG. 43263), then a 30-day *Federal Register* notice on November 25, 2013 (78 FED. REG. 70399). In preparation for OMB's approval, PHMSA hosted a roundtable discussion with members of law enforcement and the emergency response communities on March 13, 2014. On September 30, 2014, PHMSA received that approval. Subsequently, we finalized the selection of volunteer pilot project participants. The pilot projects began in February 2015. PHMSA expects the pilot projects to end this month. The pilot projects are taking place in three regions, including at least one rural area. Once the pilot projects are completed, PHMSA will evaluate the results and perform impact analyses on the collected data. PHMSA is expecting to include results in a report to Congress by October 1, 2015.

In a matter related to the paperless hazard communications initiative, in December 2013, PHMSA issued an special permit to UPS, Inc., authorizing the electronic transfer of shipping paper information for certain low hazard ground shipments. As I have stated previously, we made it a priority to cut red tape and improve efficiency and moved expeditiously with this special permit. In this instance, sharing hazardous materials information electronically will improve transportation efficiency without sacrificing public safety.

Improving Data Collection, Analysis, and Reporting

PHMSA aims to improve hazardous materials transportation data collection, analysis, and reporting by eliminating reporting fields that don't provide useful information, and adding and/or clarifying useful reporting fields to identify and analyze trends and prevent future incidents. Adjustments include developing a smart form for incident reporting to ensure more consistent and reliable incident reports.

MAP-21 required PHMSA to consult with the United States Coast Guard in order to assess and improve the collection, analysis, reporting, and use of data related to transportation accidents and incidents involving hazardous materials. Further, MAP-21 required PHMSA to review methods for collecting, analyzing, and reporting hazardous materials related transportation accidents and incidents. After completing the assessment, PHMSA was required to report to Congress its plan and timeline for improving the collection, analysis, reporting, and use of data, including revising PHMSA databases, as appropriate. PHMSA reported its findings to Congress on September 3, 2013. PHMSA continues to implement its recommendations based on the availability of resources.

Other Mandates and Programmatic Changes

Enhancing Emergency Response Preparedness, Response, and Training

As mentioned in the HMEP Grant Report discussion above, MAP-21 provided several provisions related to PHMSA's Hazardous Materials Grants Program. These changes aligned with steps we had already taken to enhance the program. Specifically, MAP-21 requires HMIT and SPST grants to be awarded through a competitive process. In addition PHMSA must ensure that HMEP and SPST grants are awarded to emergency responders that will have the ability to respond to the effects of accidents or incidents involving the transportation of hazardous materials in accordance with existing regulations or National Fire Protection Association (NFPA) standards. Further, SPST grant agreements must specifically state that training courses must comply with Federal regulations and national consensus standards for hazardous materials emergency response.

As a result of our own initiatives and the MAP-21 provisions, PHMSA has increased its oversight of grantee training programs to ensure that responders and instructors trained under PHMSA hazardous materials grant programs will have the ability to protect nearby persons, property, and the environment from the effects of accidents or incidents involving the transportation of hazardous material in accordance with existing regulations or National Fire Protection Association standards.

PHMSA has and will continue to increase its outreach efforts to ensure that States, Native American Indian Tribes, Territories, and eligible non-profit organizations are aware of the MAP-21 program changes. This outreach will also serve to broaden the pool of applicants and ensure that stakeholders are aware that the HMIT and SPST grants are awarded competitively. PHMSA has created an online certification program that will require each HMIT and SPST grantee to certify during the application process that they will use the grant funding to train to the NFPA standards.

Hazardous Material Enforcement Training

MAP-21 mandated that by April 2014, PHMSA must develop uniform performance standards for training hazardous materials inspectors and investigators on the following: (1) how to collect, analyze, and publish findings from inspections and investigations of accidents and incidents involving the transportation of hazardous materials; and (2) how to identify noncompliance with the HMR, and take appropriate enforcement action. These standards may provide the following: (1) guidelines for hazardous materials inspector and investigator qualifications; (2) best practices and standards for hazardous materials inspector and investigator training programs; and (3) standard protocols to coordinate investigation efforts among Federal, State, and local jurisdictions on accidents and incidents involving the transportation of hazardous materials. The standards

were completed in Aril 2014. We are currently implementing the standards in coordination with our other modal administrations.

Hazardous Material Technical Assessment, Research and Development, and Analysis Program
MAP-21 permitted PHMSA to develop and implement a hazardous material technical assessment, research and development (R&D), and analysis program. The agency must coordinate with other modal operating administrations and work cooperatively with regulated and other entities in the development and implementation of the program. On January 17, 2014, PHMSA hosted a research and development forum to discuss the program with regulated entities and our modal partners and solicit comments. The forum transcript has been posted to PHMSA's R&D Web site (http://phmsa.dot.gov/initiatives/r-and-d). The comment period for the research projects discussed at the forum closed on March 21, 2014. PHMSA is currently reviewing 11 comments received from our stakeholders. Though commenters are supportive of our program, they do recommend changes to research activities involving liquefied petroleum gas odorization, anhydrous ammonia, and explosives.

PHMSA is planning a second forum to be held on April 16, 2015. In addition to presenting our short- and longer-term programs and projects, we will present an overview of our new R&D management system. This new system will present the general public and the regulated industry a greater opportunity to provide input, define our project evaluation criteria; and allow public access to our program timelines and project results.

Wetlines
MAP-21 required the Government Accountability Office (GAO) to evaluate and report on the safety of transporting flammable liquids in the external product piping of cargo tank motor vehicles (wetlines) by October 2013. PHMSA was prohibited from issuing a final rule regarding wetlines prior to the completion of GAO's evaluation. Per MAP-21, the GAO completed an audit on wetlines-related issues and published the final report on September 11, 2013. We are committed to working with our stakeholders to discuss safe solutions to the risks posed by wetlines.

II. PIPELINE SAFETY ACT

Prior to 2010, the pipeline industry's safety record was generally improving. PHMSA had implemented all but one of the mandates from the Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006 (PIPES Act; Public Law 109-468) and acceptably closed all of its NTSB recommendations except for six, which remained classified by NTSB as "open acceptable."

By 2010, however, energy production suddenly began growing exponentially, ushering in a domestic energy renaissance and a new set of economic opportunities and new challenges,

including pipeline safety. More energy products are not only increasing demand for pipeline construction, they are also placing more stress on the Nation's aging pipeline infrastructure. Over a relatively short period, several major accidents occurred. Since then, a string of tragic pipeline accidents at Marshall, MI; San Bruno, CA; Allentown, PA; and Billings, MT have collectively claimed 13 people's lives, injured more than 50 people, caused environmental harm, and released millions of dollars' worth of energy products. These incidents are sobering reminders of the tangible safety risks associated with pipeline transportation. The deadly 2011 natural gas explosion in Allentown, for example, was caused by a rupture in a cast iron pipe installed more than 80 years before.

Following these incidents, on January 3, 2012, the Pipeline Safety Act was enacted and showed there was a broad consensus about the importance of a safe and reliable pipeline system. Under the Pipeline Safety Act, PHMSA received 42 new Congressional mandates. Since 2011, PHMSA was also issued 49 new NTSB recommendations, 16 new Office of the Inspector General (OIG) recommendations, and 7 new GAO recommendations.[1]

PHMSA has tackled these requirements through a comprehensive approach. While there is still much work to be done in protecting people and the environment from the risks involved in transporting hazardous materials – including by pipeline – we have made good progress in completing those mandates and fulfilling the intent of the Pipeline Safety Act. As of April 8, 2015, PHMSA satisfied five pipeline safety recommendations from the National Transportation Safety Board (NTSB), bringing down our count of open audit recommendations to 18. This does not include the NTSB's 22 integrity management recommendations; however, PHMSA staff is diligently working to respond to them.

PHMSA has completed 22 of the 42 mandates and has made great strides in completing significant work towards the remaining mandates, including finalizing its Excavation Damage Report (available at http://go.usa.gov/33H7H). The following briefly describes PHMSA's work to carry out the Pipeline Safety Act mandates:

Section 2—Civil Penalties:
The Pipeline Safety Act increased the maximum administrative civil penalty for pipeline safety violations from $100,000 to $200,000 per violation per day and from $1,000,000 to $2,000,000 for a related series of violations. On September 25, 2013, PHMSA published a final rule titled "Administrative Procedures; Updates and Technical Corrections" (78 Fed. Reg. 58897), which updated Part 190 of title 49 of the Code of Federal Regulations (C.F.R.) to reflect this amendment.

[1] The NTSB recently issued 22 new recommendations (included in the total of 49) after releasing its gas integrity management study on January 27, 2015. GAO also issued an additional recommendation after completing its own study on shale oil and gas in May 2014.

Section 3—Pipeline Damage Prevention:
PHMSA has been a leader for many years in preventing damage to underground facilities caused by excavation and other activities near pipelines, including establishing 811 as the national telephone number to call before beginning excavation. The Pipeline Safety Act required PHMSA to incorporate new standards for State "one-call" programs into the State Damage Prevention (SDP) grant program criteria, including no State and local exemptions. PHMSA discussed these exemptions with members of the National Association of Pipeline Safety Representatives, the Common Ground Alliance, the pipeline industry, and many others, and incorporated revised requirements in the SDP grant program criteria. PHMSA then determined which States would be impacted by SDP grant funding limitations and sent letters that provided damage prevention and grant eligibility information to the governors of affected States on March 25, 2013. Communication with the affected States continued throughout the year, including a large, Public Exemptions Workshop that PHMSA held on March 14, 2013. PHMSA posted the 2014 SDP solicitation, which included language regarding the new standards, on November 25, 2013. On January 7, 2014, PHMSA notified the States of their eligibility status for the 2014 SDP grants.

The Pipeline Safety Act also requires PHMSA to conduct a study on the impact of excavation damage on pipeline safety, including exemptions, frequency, severity, and type of damage, and report the results to Congress. PHMSA subsequently performed significant data analysis regarding damage prevention. This analysis was incorporated into PHMSA's report, which was sent to Congress on October 9, 2014.

Section 4—Automatic and Remote-Controlled Shut-Off Valve Use:
The Pipeline Safety Act requires PHMSA to issue regulations requiring the use of automatic or remote-control shut-off valves on transmission pipelines constructed or entirely replaced after the date of the rule, if appropriate.

PHMSA has long been committed to finding new approaches that can help mitigate the amount of product released from a pipeline in the event of a rupture. PHMSA began to collect information on the use of automatic shut-off valves (ASVs) and remote-controlled shut-off valves (RCVs) on hazardous liquid and gas transmission pipelines prior to the enactment of the Pipeline Safety Act through issuance of two Advance Notices of Proposed Rulemaking (ANPRMs) titled "Safety of On-Shore Hazardous Liquid Pipelines" and "Safety of Gas Transmission Pipelines". For hazardous liquid transmission pipelines, an ANPRM issued on October 18, 2010, requested public comments on the use of RCVs. For gas transmission pipelines, an ANPRM issued on October 25, 2011, requested public comments on requiring the use of ASV and RCV installation.

PHMSA is taking public comments on the ANPRM and from other sources, including a large, public leak detection and valve workshop held on March 28, 2012, and an independent valve study conducted by Oak Ridge National Laboratory titled "Studies for the Requirements of Automatic

and Remotely Controlled Shutoff Valves on Hazardous Liquid and Natural Gas Pipelines with Respect to Public and Environmental Safety" (submitted to Congress on December 27, 2012), into consideration as it drafts an NPRM related to ASV and RCV installation and leak detection.

Section 5—Integrity Management:
Over the last three reauthorization cycles, Congress has directed PHMSA to build on proven risk management and integrity management approaches to pipeline safety that provide for the use of the latest internal inspection and other technologies. The Pipeline Safety Act required PHMSA to conduct an evaluation on whether integrity management programs (IMPs) should be expanded beyond high-consequence areas (HCAs) and whether gas IMPs should replace the class location system. This section also asks PHMSA to consider issuing regulations expanding IMP requirements and/or replacing class locations.

On August 25, 2011, PHMSA published an ANPRM titled "Safety of Gas Transmission Pipelines," (RIN: 2137-AE72), which asked all stakeholders whether PHMSA should modify the definition of an HCA and develop additional safety measures, including integrity management measures. PHMSA published an NPRM in the Federal Register on August 1, 2013, to ask for comments on HCA expansion and, with respect to gas transmission, whether applying IMP requirements to additional areas mitigates the need for class location requirements. PHMSA also held a "Class Location Methodology Workshop" (79 Fed. Reg. 16421) on April 16, 2014 to inform a final report.

This section of the statute also suggests that PHMSA may extend a gas pipeline operator's 7-year reassessment interval by 6 months if the operator submits written notice with sufficient justification of the need for an extension, and that PHMSA should publish guidance on what constitutes sufficient justification. PHMSA is considering rulemaking to propose the 6-month extension and provide supporting guidance on what constitutes sufficient justification.

Section 6—Public Education and Awareness:
This section contained several requirements aimed at ensuring members of the public and other stakeholders are able to understand and engage on issues involving the safety of pipelines located near their communities. One mandate requires that PHMSA maintain a map of all gas HCAs as a part of the National Pipeline Mapping System (NPMS), and another mandate requires PHMSA to update the NPMS biennially. PHMSA has already begun to implement this provision using information currently available, and we continue to work on expanding the information available. As defined in the NPMS, there are five types of High Consequence Areas: Populated Areas, Other Populated Areas, Commercially Navigable Waterways, Ecologically Sensitive Areas, and Drinking Water Sensitive Areas. The first three types are updated whenever the source agency (Census or BTS) releases new data. Updating the ecological and drinking water data is prohibitively expensive for PHMSA (approximately $3 million each time the data is updated). As

a result, PHMSA is considering a rulemaking to change the definition of those datasets in a way that would allow PHMSA to use other government datasets at no or low cost.

Additionally, PHMSA was required to promote greater awareness of the NPMS to State and local emergency responders and other parties. To address this requirement, PHMSA is incorporating NPMS outreach into other programs that relate to State and local officials, including emergency management and emergency responder officials. PHMSA hosted a meeting of Public Safety and Emergency Response officials to discuss pipeline emergency preparedness and response on December 9, 2011. Additionally, PHMSA continues to communicate with various emergency responder groups through its Emergency Responder (ER) Outreach program and the Community Assistance and Technical Services (CATS) program. PHMSA is also publishing articles regarding its public resources, including the NPMS, in ER publications. A brochure, designed for widespread distribution in the ER community, was also created that described available resources.

PHMSA was also required to issue guidance to operators to provide system-specific information about their pipelines to emergency responders after consulting with those responders. This requirement aligns closely with NTSB recommendation P-11-8, which recommended sharing pipe diameter, operating pressure, product transported, potential impact radius and other information. On November 3, 2010, and prior to the passage of the Act, PHMSA issued Advisory Bulletin ADB-10-08, "Emergency Preparedness Communications" (75 Fed. Reg. 67807), which reminded operators of gas and hazardous liquid pipeline facilities that they must make their pipeline emergency response plans available to local emergency response officials. PHMSA recommends that operators provide their emergency response plans to officials through their required liaison and public awareness activities. PHMSA is evaluating the extent to which operators have provided their emergency plans to local emergency officials when performing inspections for compliance with liaison and public awareness code requirements.

Following that bulletin, PHMSA issued another Advisory Bulletin on October 11, 2012, titled "Communication During Emergency Situations" (ADB-12-09; 77 Fed. Reg. 61826), which reminds operators of gas, hazardous liquid, and liquefied natural gas pipeline facilities that operators should immediately and directly notify the Public Safety Access Point that serves the communities and jurisdictions in which those pipelines are located when there are indications of a pipeline facility emergency.

Further, PHMSA convened a Public Awareness (PA) Working Group that will leverage the results of PHMSA's ER outreach efforts and issue findings on gaps in the requirements for pipeline operators to communicate with local emergency response agencies. The initial findings of the PA Working Group will be made available to the public this year. PHMSA will also make the findings available to the American Petroleum Institute (API) as input on Recommended Practice 1162. PHMSA will review the PA Working Group's findings to determine if additional changes need to

be made to Federal regulations regarding communications and information sharing between pipeline operators and local emergency response agencies.

The final mandate from this section required PHMSA to maintain the most recent oil facility response plans (FRPs), which are currently collected from operators, and provide copies of those FRPs to any requester through the Freedom of Information Act process. These plans, often spanning hundreds of pages, include sensitive information that must be redacted prior to public release. PHMSA has implemented this mandate and continues to improve the FRP program by accelerating the plan review process.

Section 7—Cast Iron Gas Pipelines:
The Pipeline Safety Act required PHMSA to follow up on the industry's progress in replacing older cast iron gas pipelines still operated as part of gas distribution systems regulated by the states. PHMSA has collected updates on these modernization projects and has published the responses on its public Web site. This inventory was developed and posted before the deadline of December 31, 2012. We also update this data and trend reduction in cast iron pipe on an annual basis.

Section 8—Leak Detection:
The Pipeline Safety Act requires PHMSA to submit a report to Congress on leak detection systems used by operators of hazardous liquid pipeline facilities and transportation-related flow lines. This report was submitted to Congress prior to the deadline of January 3, 2013, and is available on PHMSA's public Web site.

This section also requires PHMSA to, if appropriate, issue regulations requiring leak detection on hazardous liquid pipelines and establishing leak detection standards (though not during the Congressional review period unless there is a risk to public safety). As mentioned above for Section 4, PHMSA hosted a major workshop on leak detection and ASVs/RCVs in 2012. A two-pronged approach to address leak detection has been developed. The first prong involves rulemaking currently underway aimed at improving current requirements based on currently available technology. Secondly, in order to improve leak detection performance and to inform future policy making, PHMSA funded an R&D project aimed at improving leak detection system design redundancy and accuracy (Contract DTPH56-14-H-00007).

Section 9—Accident and Investigation Notification:
PHMSA was required by the Act to revise regulations to require telephonic reporting of incidents or accidents not later than one hour following a "confirmed discovery" and to require revising the initial telephonic report after 48 hours if practicable. PHMSA issued an Advisory Bulletin ("Accident and Incident Notification Time Limit;" ADB-2013-01; 78 Fed. Reg. 6402) in 2012 advising owners and operators of gas and hazardous liquid pipeline systems and liquefied natural

gas facilities that they should contact the National Response Center (NRC) within one hour of discovery of a pipeline incident and should also file additional telephonic reports if there are significant changes in the number of fatalities or injuries, product release estimates, or the extent of damages.

The Act also requires PHMSA to review and revise, as necessary, procedures for operators and the NRC to notify emergency responders, including local public safety answering points or 911 centers. PHMSA published Advisory Bulletins ADB-12-09, "Communication During Emergency Situations" (77 Fed. Reg. 61826), and ADB-10-08, "Emergency Preparedness Communications" (75 Fed. Reg. 67807), which issued guidance to operators on these procedures.

Section 10—Transportation-Related Onshore Facility Response Plan Compliance: Administrative Enforcement and Civil Penalties:
PHMSA updated 49 C.F.R. Part 190 to be consistent with the new authority to enforce the facility response plan requirements in 49 C.F.R. Part 194 including using civil penalties for violations. This item was addressed when PHMSA published its final rule titled "Administrative Procedures; Updates and Technical Corrections" (RIN: 2137-AE92) on September 25, 2013.

Section 11—Pipeline Infrastructure Data Collection:
On July 30, 2014, PHMSA issued a notice considering whether to collect additional information on other geospatial and technical data for the National Pipeline Mapping System (NPMS). On November 17, 2014, PHMSA held a public meeting to discuss the information collection and collect additional comments. Comments are currently under review.

Section 12—Transportation-Related Oil Flow Lines:
PHMSA is considering collecting geospatial and other data on transportation-related oil flow lines.

Section 13—Cost Recovery for Design Reviews:
PHMSA is responsible for reviewing pipeline facility designs to determine whether they are in code compliance. The Act authorizes PHMSA to recover from companies the costs of conducting pipeline facility design reviews of projects with design and construction costs totaling over $2.5 billion, or uses new or novel technologies or design. The legislation allowed for the collection of the fee as a mandatory receipt with the spending subject to appropriations. No fees have been collected to date pursuant to this authority.

Section 14—Biofuel Pipelines:
The Act clarified that pipelines that transporting biofuels such as ethanol meet the definition of hazardous liquid pipelines.

Section 15—Carbon Dioxide Pipelines:

The Act requires that PHMSA issue regulations for transporting by pipeline carbon dioxide while in a gaseous state. Although the carbon dioxide pipelines PHMSA is aware of transport carbon dioxide in a liquid state and are already regulated under Part 195, PHMSA is currently considering ways to prepare for future developments in the industry, including the possibility of conducting an information collection to gain more data to better inform our decision.

Section 16—Study of Transportation of Diluted Bitumen:
PHMSA was required to review and report to Congress on whether current regulations are sufficient to regulate pipelines transporting diluted bitumen. We engaged the National Academy of Sciences (NAS) and Transportation Research Board (TRB) to study this important issue. The NAS/TRB committee briefed PHMSA's senior management and the Department's Deputy Secretary on June 21, 2013. The NAS/TRB committee briefed Congress on June 24, 2013, and held a public press conference on the release of the report on June 25, 2013. The report is available publically from the NAS/TRB website at http://www.nap.edu/openbook.php?record_id=18381.

In January, 2014, PHMSA was further directed under the Explanatory Statement of the Consolidated Appropriations Act, 2014, Division L, to conduct another study on the transportation of diluted bitumen. The new study must investigate whether spill properties of diluted bitumen differ sufficiently from those of other liquid petroleum products to warrant modifications of spill response plans, spill preparedness, or clean up regulations. PHMSA must report the findings to the House and Senate Committees on Appropriations within 180 days of enactment. In order to satisfy this mandate, PHMSA awarded a 21 month contract to the NAS. An ad hoc committee of subject matter experts was convened, and work is ongoing.

Section 17—Study of Nonpetroleum Hazardous Liquids Transported by Pipeline:
This section allows PHMSA to analyze the extent to which pipelines transporting non-petroleum hazardous liquids, such as chlorine, are unregulated, and whether any such pipelines presents risks to the public. While PHMSA's major focus with respect to hazardous liquid pipelines continues to be on the petroleum pipelines that make up the vast majority of the mileage, any information and analysis on this subject will be made available to Congress as directed by the Act. PHMSA continues to review this issue.

Section 19—Maintenance of Effort:
PHMSA was required to grant waivers of the maintenance of effort clause in FY 2012 and FY 2013 to States that demonstrate an inability to maintain funding to their pipeline safety program due to economic hardship. This action has been completed for FY 2012 and FY 2013, and we are ready to address this mandate for FY 2014.

Section 20—Administrative Enforcement Process:
This section requires PHMSA to issue regulations for administrative enforcement hearings that require a presiding official, implement a separation of functions, prohibit ex parte communications and provide other due process provisions. This item was addressed in the final rule titled "Administrative Procedures; Updates and Technical Corrections" (RIN: 2137-AE92), which was published on September 25, 2013.

Section 21—Gas and Hazardous Liquid Gathering Lines:
The Act requires PHMSA to review and report to Congress on existing Federal and State regulations for all gathering lines, existing exemptions, and the application of existing regulations to lines not presently regulated. PHMSA must also consider issuing regulations that would subject offshore liquid gathering lines to the same standards as other liquid gathering lines. PHMSA completed research and is developing the final report.

Section 22—Excess Flow Valves:
The Act requires PHMSA to consider issuing regulations requiring the use of excess flow valves on new or entirely replaced distribution branch services, multi-family facilities, and small commercial facilities. PHMSA issued an ANPRM titled "Expanding the Use of Excess Flow Valves in Gas Distribution Systems to Applications Other Than Single-Family Residences" (RIN: 2137-AE71) on November 25, 2011, and analyzed the public comments received.

Section 23—Maximum Allowable Operating Pressure:
PHMSA has taken several key steps in responding to this key mandate involving pipeline operator verification or records, reporting, determination of maximum allowable operating pressure (MAOP) and testing regulations. PHMSA revised information collection procedures, requiring all operators to report pipelines without sufficient records to confirm the established maximum allowable operating pressure of pipeline segments. This information collection, conducted through operators' annual reporting requirements already in place, provided an inventory of pipelines without sufficient records, and further helped define the potential regulatory impact of any potential new regulations. Interim actions were also taken under this section, including issuing advisory bulletins to alert and remind operators of needed actions to ensure safety. On May 7, 2012, Advisory Bulletin 12-6 reminded operators of gas and hazardous liquid pipeline facilities to verify their records relating to operating specifications for MAOP (required by 49 CFR 192.517) and maximum operating pressure (MOP) required by 49 CFR 195.310. On December 21, 2012, Advisory Bulletin 12-11 required gas pipeline operators to report exceedances of MAOP. PHMSA further engaged all stakeholders in the development of a fitness for service concept for pipelines referred to as the "Integrity Verification Process" (IVP). On August 7, 2013, PHMSA conducted a public workshop on IVP and invited public comments prior to commencing rulemaking.

Section 24—Limitation of Incorporation of Documents by Reference:
Section 24 of the Pipeline Safety Act of 2011 (as amended by H.R. 2576 (P.L 113-30)) mandates that the standards publications incorporated by reference into the Pipeline Safety Regulations are made available to the public free of charge.

PHMSA currently incorporates by reference 65 standards from seven different standard developing organizations (SDOs). These standards are available for viewing at PHMSA's headquarters and regional offices, and the Office of the Federal Register. In addition, six of the seven SDOs have agreed to make their standards publications available for viewing free of charge on the Internet. PHMSA continues to work with all the SDOs, Congress, OMB, and other affected entities to make sure that any document that we incorporate by reference into the regulations in the future is reasonably available to the general public for free.

Section 28—Cover Over Buried Pipelines:
PHMSA was required to conduct a study and report to Congress on hazardous liquid pipeline accidents at water crossings to determine if depth of cover was a factor. This study was completed and was transmitted to Congress before the deadline of January 3, 2013.

If the study shows depth of cover was a factor, PHMSA was required to review the sufficiency of existing depth of cover regulations and consider possible regulatory changes and/or legislative recommendations. PHMSA, via letters transmitted to Congress on November 19, 2013, concluded that its existing legislative authority is adequate to address the risks of hazardous liquid pipeline failures at major river crossings. PHMSA believes that no new legislative authority is needed. However, PHMSA will continue to look for ways to enhance its depth of cover regulations, as appropriate, moving forward.

Section 29—Seismicity:
There was no specific mandate within this section, but it was suggested that PHMSA should issue regulations to be consistent with the requirement in statute that operators consider seismicity in identifying and evaluating all potential threats to each pipeline pursuant to Parts 192 and 195. PHMSA has conducted research on this issue and is planning to propose seismicity considerations in its NPRMs titled "Safety of Gas Transmission and Gathering Pipelines" (RIN: 2137-AE72) and Safety of Hazardous Liquid Pipelines (RIN: 2137-AE66).

Section 30—Tribal Consultation for Pipeline Projects:
The Act requires PHMSA to develop and implement a protocol for consulting with Indian tribes to provide technical assistance for the regulation of pipelines that are under the jurisdiction of Indian tribes. PHMSA posted this protocol on its Web site prior to the deadline of January 3, 2013.

Section 31—Pipeline Inspection and Enforcement Needs:
PHMSA was required to report to Congress on the total number of full-time equivalents (FTEs) for pipeline inspection and enforcement, the number of such FTEs that are not presently filled and the reasons they are not filled, the actions being taken to fill the FTEs, and any additional resources needed. PHMSA completed this action and submitted a report to Congress on December 20, 2012.

Section 32—Authorization of Appropriations:
This section of the Act required PHMSA to ensure that at least 30 percent of the costs of program-wide R&D activities are carried out using non-Federal sources. These efforts are currently ongoing and are on-track.

Further, this section of the Act required the Secretary of Transportation - after the initial 5-year R&D program plan has been carried out by the participating agencies and in coordination with the Director of the National Institute of Standards and Technology, as appropriate - to prepare an R&D program plan every 5 years thereafter. PHMSA must also transmit a report to Congress on the status and results-to-date of implementation of the R&D program every 2 years. The R&D program is designed to identify gaps in needed pipeline technology and map a path forward to assure there is no duplicative research and that resources are leveraged appropriately. PHMSA transmitted its latest 5-year R&D program plan to Congress on July 29, 2013.

III. CONCLUSION

PHMSA is committed to hazardous materials transportation safety by all modes, making us a distinctly multi-modal agency at the U.S. Department of Transportation. As such, we regularly coordinate and consult with other Federal agencies, State partners and stakeholder groups because safety is a shared responsibility. Much like we work with other agencies to execute our safety mission, PHMSA looks forward to continuing its progress in implementing Congress's mandates.

In my nearly five years at PHMSA, I have witnessed the energy development activity in regions like the Bakken and Marcellus. Before PHMSA, I worked as a fire chief; I know first-hand how devastating hazmat emergencies can be not only for everyday people, but the brave women and men who work as first responders.

While PHMSA develops, issues and enforces Federal regulations, PHMSA is one component of a larger, complex transportation network. In addition to PHMSA, the safety of hazmat transportation depends on the industry - which owns and operates the infrastructure - and other stakeholder groups like our State partners and emergency responders.

PHMSA's mission is important and far-reaching; it's truly an honor to work with PHMSA's highly professional, dedicated staff in protecting the American people and environment. We will continue to work with all of our safety partners in addressing the rest of MAP-21 and Pipeline Safety Act mandates. Thank you again for the opportunity today to report on our progress. I would be happy to answer any questions you may have.

Hearing on "Oversight of Ongoing Rail, Pipeline, and Hazmat Rulemakings."
U.S. House of Representatives Committee on Transportation and Infrastructure
Subcommittee on Railroads, Pipelines, and Hazardous Materials
Tuesday, April 14, 2015
2167 Rayburn House Office Building
Washington, D.C.

Pipeline and Hazardous Materials Safety Administration's responses to questions for the record

Submitted on behalf of Congressman Graves

1. The Pipeline and Hazardous Material Safety Administration (PHMSA) has proposed to classify as a High-Hazard Flammable Train (HHFT) any train with as few as 20 tank cars of flammable liquids. The driving need for enhanced safety standards for flammable liquids has arisen in the context of unit trains of crude oil or ethanol, which typically consist of 50 or more tank cars. Consequently, far more trains will be designated HHFTs than are warranted by the risks that these rules are designed to address. For example, speed restrictions for HHFTs are a concern because they will have impacts on the rail network far beyond any single HHFT by slowing down and congesting the larger network. The more trains that fall within the definition of an HHFT, the greater the potential impact. **When considering these concerns, do you believe the rule is scoped appropriately?**

Answer 1: Yes, we believe the final rule is appropriately scoped. The Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains (HHFT) final rule is accompanied by a comprehensive regulatory impact analysis (see http://www.regulations.gov/#!documentDetail;D=PHMSA-2012-0082-3442). This regulatory impact analysis discusses the cost and benefits of the rulemaking requirements and presents extensive analysis supporting the requirements of the rulemaking. Each aspect of this rulemaking was analyzed including the scope of the rulemaking (i.e., the definition of a High-Hazard Flammable Train) and how that scope affects cost and benefits.

The Pipeline and Hazardous Materials Safety Administration (PHMSA) and the Federal Railroad Administration (FRA) analyzed extensive comments on the scope of the rulemaking. Based on this analysis, PHMSA and FRA modified the definition of HHFT to capture the higher-risk bulk quantities transported in unit trains, while excluding lower-risk manifest trains. See below.

Topic	NPRM Proposal	Final Rule Amendment
Scope – High-Hazard Flammable Train	High-hazard flammable train means a single train carrying 20 or more carloads of a Class 3 flammable liquid.	A continuous block of 20 or more tank cars loaded with a flammable liquid or 35 or more tank cars loaded with a flammable liquid dispersed through a train.

Question 2:

2. In PHMSA's most recent "Miscellaneous Amendments" the agency proposed a rule that would prohibit the shipment of hazardous materials in the same transport vehicle that, if mixed, could result in a potentially dangerous chemical reaction. I have heard from constituents who are concerned this measure will fundamentally change how they ship products by increasing the number of trips they must make. They also see it as unnecessary because the Hazardous Materials Regulations already have effective product segregation rules. **Can PHMSA provide evidence such as incident data to demonstrate the existing segregation rules are deficient?**

Answer 2: The comment period for the "Miscellaneous Amendments" notice of proposed rulemaking (NPRM) (RIN: AF-04) closed in March 2015. In response to this NPRM, PHMSA received 51 comments from our stakeholders, including a number of comments on the specific proposal you mention above. We are currently analyzing those comments and developing a final rule.

Submitted by Congressman Michael Capuano

Question 1:

- Page 24 of the Draft Regulatory Impact Analysis on *Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains; Notice of Proposed Rulemaking*, dated July 2014, provides annual projections of carloads of ethanol and crude and mainline derailments through 2034. Please provide those annual estimates for the hearing record.

Answer 1: As requested, the annual estimates from the July 2014, draft regulatory impact analysis are provided in the table that follows:

Projected Carloads of Ethanol and Crude and Mainline Derailments

Year	Carloads	Main Line Derailments
2015	898,500	14.36
2016	924,707	14.34
2017	937,808	14.09
2018	949,434	13.80
2019	962,470	13.53
2020	971,605	13.19
2021	969,195	12.69
2022	965,957	12.18
2023	956,047	11.60
2024	948,974	11.05
2025	934,230	10.43
2026	909,673	9.72
2027	892,919	9.11
2028	873,274	8.49
2029	851,981	7.87
2030	829,771	7.26
2031	810,028	6.70
2032	790,030	6.15
2033	772,230	5.64
2034	755,613	5.16
2015-2034 Total		207

Source STB Waybill Sample and FRA Office of Safety Analysis

Question 2: In 2009, the DOT Inspector General reported significant weaknesses in PHMSA's processes for granting special permit and approvals, including PHMSA's failure to (1) assess applicants' prior incidents and enforcement violations and coordinate with other affected Operating Administrations; (2) thoroughly evaluate the safety of the application; and (3) target holders of special permits and approvals for compliance reviews. What has PHMSA done to address the Inspector General's concerns?

Answer 2:

Following the 2009 report from the DOT Inspector General, which identified significant weaknesses in the process used for evaluating and granting or denying special permits and approvals, PHMSA implemented significant changes to the manner in which it processed special permits and approvals. There were several modifications to the Approvals and Permits program which were central to eliminating these weaknesses. The first was the implementation of fitness reviews for all applications for a special permit or an approval (other than a classification approval) to determine if an applicant is fit to conduct the activities authorized under the terms of the special permit or approval. The second was to formalize our coordination efforts with the other Operating Administrations (OAs) through an Operational Workflow Document, which formalized the manner in which PHMSA coordinated applications for special permits and approvals with the other OAs. A third was implementing a new process to ensure that every special permit and approval application has the appropriate documentation in place to demonstrate how the safety of the application was determined. Finally, the Itinerary Planner systems used by PHMSA to schedule compliance reviews was updated to include "holding a special permit or approval" as a part of the criteria used to determine the companies which would be subject to review. The reviews include an examination of the company's prior history of incidents and enforcement actions in order to determine its suitability to hold the special permit or approval. In some cases, a review of third party inspection agency reports and onsite inspections by PHMSA field investigators are performed to ensure that the applicant is capable of performing the duties assigned, or meeting the requirements stated, in the special permit or approval.

Additionally, the DOT's Inspector General conducted a follow-up audit of the Approvals and Permits Program in 2013-2014 and its report of the audit indicated that the deficiencies had been addressed and corrected.

Question 3: What is PHMSA doing to implement the 2011 mandate to evaluate and require the installation of automatic or remote-controlled shut-off valves on new or replaced transmission pipe?

Response 3: PHMSA has been committed to this issue even prior to the 2011 Pipeline Safety Act. On October 18, 2010, PHMSA published an ANPRM titled "Safety of Hazardous Liquid Pipelines" (RIN: 2137-AE66) that asked for comments on remote-controlled shut-off valve (RCV) usage. On October 25, 2011, PHMSA published an ANPRM titled "Safety of Gas Transmission Pipelines" (RIN: 2137-AE72) that asked for comments on automatic shut-off valve (ASV) and RCV installation.

PHMSA also commissioned a study titled "Studies for the Requirements of Automatic and Remotely Controlled Shut-off Valves on Hazardous Liquid and Natural Gas Pipelines with Respect to Public and Environmental Safety" and transmitted the report to Congress on December 27, 2012. This report, which documents the study results, addresses the issues defined in Section 4 of the 2011 Pipeline Safety Act was not required by any mandate, but was done as part of PHMSA's due diligence to better understand the issues raised by the National Transportation Safety Board (NTSB) in its accident report for the San Bruno natural gas pipeline accident. The study concluded that, generally, installing ASVs and RCVs as a part of newly constructed and fully replaced natural gas transmission and hazardous liquid pipelines is technically and operationally feasible.

Further, PHMSA conducted a major public leak detection and valve workshop on March 27-28, 2012, seeking further comments about expanding the use of pipeline leak detection systems and enhancing the effectiveness of ASVs and RCVs throughout the nation's natural gas and hazardous liquid pipelines.

PHMSA also commissioned a study through Oak Ridge National Laboratory titled "Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquid and Natural Gas Pipelines with Respect to Public and Environmental Safety" and transmitted it to Congress by January 3, 2013. This study was not required by any mandate within the 2011 Pipeline Safety Act. The study concluded that, generally, installing ASVs and RCVs as a part of newly constructed and fully replaced natural gas transmission and hazardous liquid pipelines is technically and operationally feasible.

PHMSA is taking input from the ANPRM comments, the public workshop, and the study into consideration as it drafts the NPRM.

Question 4: In 2005, the NTSB conducted a safety study which found that 72 percent of all pipeline ruptures are detected by the public, emergency responders, or local operating personnel, not the pipeline controllers themselves. What is PHMSA doing to require hazardous liquid pipeline operators to install leak detection technology?

Response 4: Specific to the Section 8 of the Act, PHMSA developed a leak detection study, which examined leak detection systems used by operators of hazardous liquid and natural gas transmission pipelines. The study ultimately did not provide any specific conclusions or recommendations related to leak detection, but it acknowledged that pressure/flow monitoring (as a leak detection technique) will consistently and reliably identify large-volume, uncontrolled release events like ruptures. This study was submitted to Congress on January 3, 2013, and it is available on PHMSA's public website.

Additionally, PHMSA is funding a research and development (R&D) project aimed at improving leak detection system design redundancy and accuracy (Contract DTPH56-14-H-00007). In total, PHMSA is dedicating $8.52 million to leak detection R&D projects. PHMSA also supports university-level research into a variety of pipeline safety topics, including leak detection, through its Competitive Academic Agreement Program.

Detecting potential leaks and hazards requires a multi-faceted approach. Stakeholder awareness, detection, and reporting of hazards are also important ways to protect the public safety and environment. PHMSA's public awareness regulations (CFR 49 195.440) require hazardous liquid pipeline operators to develop and implement a public education program to educate the public, emergency responders, appropriate government organizations, and persons engaged in excavation activities on possible hazards associated with unintended releases, physical indications that such a release may have occurred, steps that should be taken for public safety, and procedures for reporting such events. PHMSA evaluates pipeline operators' programs to ensure compliance and to identify ways to strengthen collective public awareness efforts.

PHMSA collects incident reports from operators and includes data on how the incident was detected. This data for hazardous liquid, gas distribution, and gas transmission accidents from 2010-2014 is attached.

In addition, PHMSA is also drafting a proposed rule to address valve installation and minimum rupture detection standards and a proposed rule to address leak detection on hazardous liquids pipelines.

Question 5: The 2011 Act requires PHMSA to evaluate whether integrity management requirements should be expanded beyond high consequence areas, and to issue a rulemaking if justified by the evaluation. What is PHMSA doing on this issue?

Response 5: Comments from previous rulemaking activities and public workshops helped PHMSA draft a report that evaluates expanding pipeline integrity management (IM) beyond high consequence areas (HCA) and whether such expansion would mitigate the need for gas pipeline class location requirements. This report is currently being finalized and could inform potential rulemakings.

PHMSA has requested comments on whether HCAs should be expanded and whether applying IM requirements to additional areas mitigates the need for gas transmission class location requirements several times, including through the "Safety of Gas Transmission Pipelines"

ANPRM published on August 25, 2011; a Federal Register notice issued on August 1, 2013 (78 FR 46560); and a public workshop on April 16, 2014, for Class Location Methodology.

Comments from previous rulemaking activities and public workshops helped PHMSA draft a report that evaluates expanding pipeline integrity management (IM) beyond high consequence areas (HCA) and whether such expansion would mitigate the need for gas pipeline class location requirements. This report is required by the 2011 Act and is currently under agency review and has not been finalized and transmitted to Congress at this time. If the report shows that IM requirements should be expanded beyond HCAs, PHMSA would consider additional rulemaking on this subject.

PHMSA has requested comments on whether HCAs should be expanded and whether applying IM requirements to additional areas mitigates the need for gas transmission class location requirements several times, including through the "Safety of Gas Transmission Pipelines" ANPRM published on August 25, 2011; a Federal Register notice issued on August 1, 2013 (78 FR 46560); and a public workshop on April 16, 2014, for Class Location Methodology.

Question 6: The 2011 Act directs PHMSA to require each operator of an interstate or intrastate natural gas transmission pipeline in a high consequence area or within close proximity of homes, buildings, or an area that is frequently occupied to (1) verify the physical and operational standards of each pipeline segment; (2) identify and submit documentation to the Secretary on the maximum allowable operating pressure (MAOP) of each pipeline segment; and, (3) report any exceedances of MAOP within five days of when the exceedance occurs. What is PHMSA doing on this issue?

Response 6: PHMSA, in addition to its regulatory efforts, uses tools like Advisory Bulletins to address and raise awareness of safety issues. PHMSA believes that several of these MAOP requirements are self-executing standards for operators and issued Advisory Bulletins informing operators of that fact.

On January 10, 2011, PHMSA issued Advisory Bulletin 11-01 (76 FR 1504) to remind operators that if they are relying on the review of design, construction, inspection, testing, and other related data to establish MAOP and MOP, they must ensure that the records used are traceable, verifiable, and complete.

On May 7, 2012, PHMSA issued Advisory Bulletin 12-06 (77 FR 26822) reminding operators to verify their records relating to operating specifications for MAOP, and it also informed gas operators of anticipated changes in annual reporting requirements to document the confirmation of MAOP, how they will be required to report total mileage and mileage with adequate records, when they must report, and what PHMSA considers an adequate record.

On December 21, 2012, PHMSA issued Advisory Bulletin 12-11 (77 FR 75699) to inform owners and operators of gas transmission pipelines that if the pipeline pressure exceeds MAOP plus the build-up allowed for operation of pressure-limiting or control devices, the owner or operator must report the exceedance to PHMSA on or before the 5th day following the date on

which the exceedance occurs. If the pipeline is subject to the regulatory authority of one of PHMSA's State partners, the exceedance must also be reported to the applicable State agency. PHMSA's public website includes MAOP exceedances in Safety Related Condition Reports (SRCR).

PHMSA instructed pipeline operators to submit MAOP Exceedance reports in the same manner as Safety Related Condition Reports (SRCR). When PHMSA receives a SRCR, PHMSA generally contacts the operator within 24 hours to monitor the actions taken to address the condition. SRCRs allow PHMSA to assure operators are appropriately acting to assure pipelines do not become a hazard to the public or the environment. SRCR data is available from the PHMSA public website at:

http://phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=4bde326d1104b210VgnVCM1000001ecb7898RCRD&vgnextchannel=3430fb649a2dc110VgnVCM1000009ed07898RCRD&vgnextfmt=print

As of May 4, 2015, PHMSA has received 57 MAOP Exceedance reports since the issuance of the advisory bulletin:

Year of Exceedance	2012	2013	2014	2015
Number of Reports	5	24	22	6

As a part of addressing this mandate (and as a part of the May 7, 2012 Advisory Bulletin), PHMSA changed an annual report to collect mileage related to the MAOP determination method. These data elements are collected in Part Q of Form PHMSA F 7100.2-1, "Annual Report for Calendar Year 20__ Natural and Other Gas Transmission and Gathering Pipeline Systems." This information collection identified an inventory of pipelines without sufficient records, helped drive cost/benefit determinations for rulemaking activities, and further helped define the potential regulatory impact of any potential new regulations.

PHMSA has collected mileage for MAOP determination methods and the completeness of the records for the MAOP determination method in annual reports from gas transmission operators since CY2012. In CY 2014, there were 4,121 miles of gas transmission pipeline with incomplete MAOP determination method in Class 3 and 4 areas: a 16 percent decrease since 2012. During the same period, the number of gas transmission pipeline miles with incomplete MAOP determination records declined 22 percent, to 1,849 miles. Annual data is attached in Question 6. PHMSA is using this data as it develops its "Safety of Gas Transmission Pipelines" NPRM.

Question 7: The 2011 Act requires the Secretary to issue regulations for testing the material strength of previously untested gas transmission pipelines in high consequence areas. What is PHMSA doing on this issue?

Response 7: To address this mandate, PHMSA is considering an "Integrity Verification Process" (IVP) for operators to follow for confirming the material strength of previously untested natural gas transmission pipelines located in HCAs and operating at pressures greater than 30 percent of specified minimum yield strength. On August 7, 2013, PHMSA conducted a public workshop on IVP to invite public comments prior to commencing rulemaking. The comments received from

this workshop and posted on PHMSA's docket established for the workshop were considered as PHMSA developed a proposed rule to address this mandate. PHMSA plans to address this mandate in the "Safety of Gas Transmission Pipelines" NPRM, which is currently under Executive Order 12866 review at OMB, and has considered the input it has received thus far. Additionally, PHMSA has collected information on pipeline mileage pressure tested in annual reports from gas transmission operators since CY2012. In CY 2014, the number of gas transmission pipeline miles in HCAs with a pressure test of less than 1.1 times the MAOP or with no pressure test is 2,438, which is a 19 percent decrease since 2012. This data is collected as the Gas Transmission Miles by Pressure Test (PT) Range and Internal Inspection (Part R) and is available on PHMSA's website as a part of the publically posted Annual Reports. Data as of 5/4/2015 for the nation in calendar years 2012, 2013, and 2014 follows:

2012

	PT >= 1.25 MAOP		1.25 MAOP > PT >= 1.1 MAOP		PT < 1.1 or No PT	
Class Location	Miles Internal Inspection ABLE	Miles Internal Inspection NOT ABLE	Miles Internal Inspection ABLE	Miles Internal Inspection NOT ABLE	Miles Internal Inspection ABLE	Miles Internal Inspection NOT ABLE
Class 1 in HCA	1,231.26	221.24	41.92	11.98	175.16	54.75
Class 2 in HCA	1,066.90	192.56	13.63	3.08	95.29	67.21
Class 3 in HCA	9,382.46	3,889.28	64.65	96.77	1,063.27	1,391.40
Class 4 in HCA	360.37	285.47		40.87	5.01	59.59
in HCA Total	**12,040.99**	**4,588.55**	**120.20**	**152.70**	**1,338.73**	**1,572.95**
Class 1 not in HCA	96,694.82	43,664.31	12,511.45	5,442.49	37,844.70	40,574.48
Class 2 not in HCA	12,379.92	7,856.89	336.94	424.61	2,558.89	5,606.92
Class 3 not in HCA	5,920.58	6,237.34	97.56	205.19	996.04	3,422.23
Class 4 not in HCA	111.64	34.62		0.02		63.02
not in HCA Total	**115,106.97**	**57,793.17**	**12,945.95**	**6,072.30**	**41,399.63**	**49,666.64**
Total	**127,147.96**	**62,381.71**	**13,066.15**	**6,225.00**	**42,738.35**	**51,239.59**

	Miles
PT >= 1.25 MAOP	189,529.67
1.25 MAOP > PT >= 1.1 MAOP	19,291.15
PT < 1.1 or No PT	93,977.95
Grand Total	**302,798.77**

	Miles
Miles Internal Inspection ABLE	182,952.46
Miles Internal Inspection NOT ABLE	119,846.31
Grand Total	**302,798.77**

2013

	PT >= 1.25 MAOP		1.25 MAOP > PT >= 1.1 MAOP		PT < 1.1 or No PT	
Class Location	Miles Internal Inspection ABLE	Miles Internal Inspection NOT ABLE	Miles Internal Inspection ABLE	Miles Internal Inspection NOT ABLE	Miles Internal Inspection ABLE	Miles Internal Inspection NOT ABLE
Class 1 in HCA	1,147.57	183.55	49.26	5.29	181.22	32.95
Class 2 in HCA	1,050.05	162.54	17.91	0.89	121.54	49.55
Class 3 in HCA	9,510.65	3,836.49	65.52	73.29	1,143.25	1,258.71
Class 4 in HCA	337.34	299.98		40.91	1.60	64.39
in HCA Total	**12,045.61**	**4,482.55**	**132.70**	**120.38**	**1,447.61**	**1,405.60**
Class 1 not in HCA	107,229.85	43,997.26	13,670.22	5,264.59	30,250.53	35,569.41
Class 2 not in HCA	13,765.88	7,854.56	399.84	407.28	1,985.26	4,694.00
Class 3 not in HCA	6,397.93	6,513.06	92.59	181.51	1,001.66	3,414.98
Class 4 not in HCA	114.51	49.07			0.69	43.57
not in HCA Total	**127,508.18**	**58,413.95**	**14,162.65**	**5,853.38**	**33,238.14**	**43,721.96**
Total	**139,553.78**	**62,896.50**	**14,295.35**	**5,973.76**	**34,685.75**	**45,127.56**

	Miles
PT >= 1.25 MAOP	202,450.29
1.25 MAOP > PT >= 1.1 MAOP	20,269.11
PT < 1.1 or No PT	79,813.31
Grand Total	**302,532.70**

	Miles
Miles Internal Inspection ABLE	188,534.88
Miles Internal Inspection NOT ABLE	113,997.82
Grand Total	**302,532.70**

2014

	PT >= 1.25 MAOP		1.25 MAOP > PT >= 1.1 MAOP		PT < 1.1 or No PT	
Class Location	**Miles Internal Inspection ABLE**	**Miles Internal Inspection NOT ABLE**	**Miles Internal Inspection ABLE**	**Miles Internal Inspection NOT ABLE**	**Miles Internal Inspection ABLE**	**Miles Internal Inspection NOT ABLE**
Class 1 in HCA	1,165.20	191.75	59.90	8.03	111.37	29.59
Class 2 in HCA	1,172.53	159.69	16.53	0.53	67.78	43.24
Class 3 in HCA	10,018.01	3,787.93	53.15	60.23	933.62	1,191.93
Class 4 in HCA	372.43	270.01		39.68	3.21	57.64
in HCA Total	**12,728.17**	**4,409.38**	**129.58**	**108.47**	**1,115.98**	**1,322.39**
Class 1 not in HCA	109,537.18	42,605.99	13,239.49	5,165.80	30,339.75	34,028.29
Class 2 not in HCA	14,500.69	7,362.02	341.08	408.77	1,727.23	4,806.64
Class 3 not in HCA	6,736.36	6,470.29	106.27	204.56	941.59	3,143.33
Class 4 not in HCA	101.76	17.35			0.62	45.30
not in HCA Total	**130,875.99**	**56,455.64**	**13,686.84**	**5,779.13**	**33,009.19**	**42,023.56**
Total	**143,604.16**	**60,865.02**	**13,816.42**	**5,887.60**	**34,125.17**	**43,345.96**

	Miles
PT >= 1.25 MAOP	204,469.18
1.25 MAOP > PT >= 1.1 MAOP	19,704.02
PT < 1.1 or No PT	77,471.13
Grand Total	**301,644.32**

	Miles
Miles Internal Inspection ABLE	191,545.74
Miles Internal Inspection NOT ABLE	110,098.58
Grand Total	**301,644.32**

Question 8: The 2011 Act required PHMSA to eliminate the "grandfather clause" which exempted pre-1970 pipelines from hydrostatic testing requirements that applied to pipelines constructed after 1970. The San Bruno pipeline that ruptured was one of the "grandfathered" lines. NTSB found that had PG&E conducted a hydrostatic test on the line post-construction they would have known the pipe was poorly manufactured and corrected deficiencies before they began operations.

NTSB noted that more than half of the nation's onshore gas transmission pipelines (about 180,000 miles) were installed prior to the effective date of the 1970 requirement. What is PHMSA doing on this issue?

Response 8: The 2011 Act did not specifically require elimination of the "grandfather clause." PHMSA plans to address requirements in Section 23 of the Act in the "Safety of Gas Transmission Pipelines" NPRM currently under review by OMB. However, there are several other non-regulatory actions being undertaken by several stakeholders to replace higher-risk infrastructure.

In 2011, and following a tragic pipeline incident in Allentown, PA, the Secretary of Transportation issued a "Call to Action" calling upon pipeline owners and operators to conduct a comprehensive review of their oil and gas pipelines to identify areas of higher risk and accelerate critical repair and replacement work. As a result, a total of 38 States have implemented measures for accelerated infrastructure cost recovery and replacement of aging pipe, and 16 States have eliminated cast-iron distribution pipe within their borders.

PHMSA is also using many R&D efforts to address the complex challenges posed by aging pipeline infrastructure and help operators apply technology to mitigate potential issues.

Additionally, the Interstate Natural Gas Association of America, whose members account for approximately 65 percent of the mileage comprising the U.S. natural gas transmission pipeline system, has made a public commitment to apply comprehensive IM programs to the pipelines covering 90 percent of the population living along its members' pipelines by 2020, and apply IM programs to pipelines covering 100 percent of the population living along its members' pipelines by 2030. By voluntarily extending IM principles across a majority of the interstate transmission pipeline system, INGAA is striving towards its goal of zero pipeline incidents.

PHMSA has collected mileage related to MAOP determination method, including the "grandfather clause," in annual reports from gas transmission operators since CY2012. Miles "grandfathered" in CY 2014 is 14 percent of the total. For HCA miles, 7 percent are "grandfathered." This data is collected as the Gas Transmission Miles by §192.619 MAOP Determination Method and Records Status (Part Q) and is available on PHMSA's website as a part of the publically posted Annual Reports. Data as of 5/4/2015 for the nation in calendar years 2012, 2013, and 2014 follows:

2012

	(a)(1) Total	(a)(1) Incomplete Records	(a)(2) Total	(a)(2) Incomplete Records	(a)(3) Total	(a)(3) Incomplete Records	(a)(4) Total	(a)(4) Incomplete Records	(c) Total	(c) Incomplete Records	(d) Total	(d) Incomplete Records	Other Total	Other Incomplete Records	HCA Miles	% of HCA Miles
Class 1 (in HCA)	775.46	113.53	682.78	40.80	99.82	8.04	13.22	1.66	86.33	13.76	60.64		17.48		1,735.71	8.8%
Class 1 (not in HCA)	93,925.77	[redacted]	82,059.65	[redacted]	19,982.22	[redacted]	7,410.18	[redacted]	26,815.06	[redacted]	5,093.27	[redacted]	1,776.99	[redacted]		
Class 2 (in HCA)	795.91	55.78	490.47	36.79	64.73	5.87	7.40	0.85	36.21	2.03	35.33		9.21		1,439.26	7.3%
Class 2 (not in HCA)	12,343.06	[redacted]	11,071.35	[redacted]	2,154.06	[redacted]	982.15	[redacted]	1,907.50	[redacted]	258.29	[redacted]	444.38	[redacted]		
Class 3 (in HCA)	6,518.29	875.23	6,503.02	736.25	1,215.30	179.69	409.97	102.46	940.50	103.38	180.42		123.14	3.91	15,890.63	80.2%
Class 3 (not in HCA)	5,963.55	894.83	7,206.72	1,049.13	1,185.89	359.84	922.66	182.38	1,141.40	280.86	40.42		421.06	23.89		
Class 4 (in HCA)	97.02	18.32	568.23	56.80	13.11	6.53	7.52	2.07	51.94	0.04			13.47		751.28	3.8%
Class 4 (not in HCA)	45.01	23.27	121.32	1.41	2.01	1.07	2.42	0.10	0.02				38.53			
Total Miles	**120,464.04**	**1,980.96**	**108,703.54**	**1,921.17**	**24,717.13**	**561.03**	**9,755.52**	**289.51**	**30,978.95**	**400.07**	**5,668.37**		**2,844.27**	**27.80**	**19,816.88**	**100.0 %**

Grand Total	303,131.82
Incomplete Records	5,180.54
Percent with Incomplete Records	1.7%

2013

	(a)(1) Total	(a)(1) Incomplete Records	(a)(2) Total	(a)(2) Incomplete Records	(a)(3) Total	(a)(3) Incomplete Records	(a)(4) Total	(a)(4) Incomplete Records	(c) Total	(c) Incomplete Records	(d) Total	(d) Incomplete Records	Other Total	Other Incomplete Records	HCA Miles	% of HCA Miles
Class 1 (in HCA)	725.00	167.18	557.14	28.19	118.82	4.16	13.03	1.53	94.34	15.51	64.15		27.18	0.04	1,599.66	8.1%
Class 1 (not in HCA)	103,034.57	[redacted]	63,147.50	[redacted]	16,978.20	[redacted]	6,911.27	[redacted]	38,219.19	[redacted]	4,992.37	[redacted]	2,936.22	[redacted]		
Class 2 (in HCA)	774.00	130.82	443.34	39.97	91.83	5.32	9.21	0.94	40.94	14.97	38.80		5.24		1,403.35	7.1%
Class 2 (not in HCA)	13,313.82	[redacted]	9,873.95	[redacted]	2,222.40	[redacted]	869.14	[redacted]	2,371.87	[redacted]	232.11	[redacted]	221.56	[redacted]		
Class 3 (in HCA)	6,721.89	733.51	6,078.09	588.52	1,275.26	89.06	413.29	80.87	1,147.20	272.21	179.79		71.56	3.30	15,887.07	80.9%
Class 3 (not in HCA)	6,050.26	762.60	7,005.09	890.50	1,206.57	135.44	1,341.06	237.28	1,748.41	642.81	39.61		213.75	9.01		
Class 4 (in HCA)	79.30	14.69	562.20	55.70	65.42	55.57	22.14	1.49	2.70	0.38			12.58		744.33	3.8%
Class 4 (not in HCA)	12.73	2.56	121.43	2.33	1.58	0.60	32.05	2.75	1.83	1.62			38.19			
Total Miles	**130,711.57**	**1,811.37**	**87,788.73**	**1,605.23**	**21,960.07**	**290.15**	**9,611.19**	**324.85**	**43,626.47**	**947.50**	**5,546.83**		**3,526.28**	**12.82**	**19,634.42**	**100.0 %**

Grand Total	302,771.13
Incomplete Records	4,991.91
Percent with Incomplete Records	1.6%

2014

	(a)(1) Total	(a)(1) Incomplete Records	(a)(2) Total	(a)(2) Incomplete Records	(a)(3) Total	(a)(3) Incomplete Records	(a)(4) Total	(a)(4) Incomplete Records	(c) Total	(c) Incomplete Records	(d) Total	(d) Incomplete Records	Other Total	Other Incomplete Records	HCA Miles	% of HCA Miles
Class 1 (in HCA)	829.82	67.73	464.24	30.70	82.66	3.39	16.64	1.36	74.61	8.74	70.37		27.35	0.04	1,565.70	7.9%
Class 1 (not in HCA)	109,751.35	[redacted]	64,720.81	[redacted]	9,857.42	[redacted]	6,851.94	[redacted]	36,226.24	[redacted]	4,843.60	[redacted]	2,667.80	[redacted]		
Class 2 (in HCA)	912.33	70.22	404.75	47.14	40.42	3.78	20.95	1.04	40.54	7.65	37.83		4.04		1,460.85	7.4%
Class 2 (not in HCA)	13,493.53	[redacted]	10,255.48	[redacted]	1,888.61	[redacted]	872.24	[redacted]	2,249.35	[redacted]	224.79	[redacted]	160.13	[redacted]		
Class 3 (in HCA)	7,018.42	566.75	6,094.84	624.75	1,018.61	94.22	416.04	58.11	1,188.88	136.49	178.62		128.65	1.75	16,044.06	81.0%
Class 3 (not in HCA)	6,427.49	676.11	7,002.78	1,080.47	1,103.49	196.72	1,230.45	203.79	1,611.69	344.54	41.76		185.68	10.36		
Class 4 (in HCA)	90.73	15.34	568.07	56.25	61.36	53.20	4.74	0.17	5.59	0.40			12.51		743.00	3.7%
Class 4 (not in HCA)	14.69	0.57	108.22	0.64	0.06	0.04	3.12	0.02	1.04	0.26			37.77			
Total Miles	**138,538.37**	**1,396.72**	**89,619.18**	**1,839.96**	**14,052.63**	**351.35**	**9,416.12**	**264.47**	**41,397.94**	**498.08**	**5,396.97**		**3,223.92**	**12.62**	**19,813.61**	**100.0%**

Grand Total	301,645.12
Incomplete Records	4,363.20
Percent with Incomplete Records	1.4%

Question 9: The 2011 Act required PHMSA to revise its regulations to establish specific time limits (not to exceed one hour) for telephonic reporting of accidents and incidents involving pipeline facilities to the Secretary and the National Response Center. Federal regulations currently require operators to report an incident "at the earliest practicable opportunity" which has often exceeded two hours. Following enactment, PHMSA issued an advisory bulletin to operators "encouraging" them to comply with the new mandate. PHMSA still hasn't revised its regulations to reflect the new time limit. What is PHMSA doing on this issue?

Response 9: PHMSA drafted an NPRM titled "Operator Qualification, Cost Recovery, Accident and Incident Notification, and Other Changes" (RIN: 2137-AE94) that would potentially address this issue. PHMSA submitted this NPRM to OST on May 28, 2014, where it is currently under review.

Even before the January 30, 2013, Advisory Bulletin 13-01 (78 FR 6402) referenced in this question was issued, it has been PHMSA's long-standing policy to remind owners and operators of PHMSA-regulated pipelines of the need for prompt telephonic reports of pipeline incidents to the National Response Center (NRC). PHMSA's predecessor—Research and Special Programs Administration—issued Advisory Bulletins regarding these issues during the 1980s, and they more recently issued Advisory Bulletin 02-04 (67 FR 57060) on September 6, 2002, to advise owners and operators of gas distribution, gas transmission, hazardous liquid pipeline systems, and liquefied natural gas (LNG) facilities to ensure that telephonic reports of incidents to the NRC are prompt (within 1 to 2 hours).

PHMSA also expects to propose changes to the gas distribution, gas transmission and gathering, hazardous liquid and carbon dioxide, and liquefied natural gas incident regulations and report forms to collect the date and time of Confirmed Discovery. These incident forms already include the date and time of the operator's initial report to the Natural Response Center.

In addition, on October 11, 2012, PHMSA issued Advisory Bulletin 12-09 (77 FR 61826) to remind operators of gas, hazardous liquid, and liquefied natural gas pipeline facilities to immediately and directly notify the Public Safety Access Point (PSAP) that serves the communities and jurisdictions in which those pipelines are located when there are indications of a pipeline facility emergency. Furthermore, the AB stated operators should have the ability to immediately contact PSAP(s) along their pipeline routes if there is an indication of a pipeline facility emergency to determine if the PSAP has information which may help the operator confirm an emergency or to provide assistance and information to public safety personnel who may be responding to the event.

PHMSA continues to facilitate communications with appropriate parties, both before and during accidents and incidents. In 2013, PHMSA formed the Public Awareness Program Working Group (PAPWG) to review and analyze pipeline public awareness efforts and effective communication methods from various sources. The PAPWG comprises representatives from PHMSA, the National Association of Pipeline Safety Representatives, emergency responders, public officials, excavators, pipeline trade associations, and the public. In the summer of 2015, the PAPWG will issue a Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis

report of key findings. The SWOT report will be made available to the public, pipeline operators, other stakeholders to facilitate ongoing communications and enhanced awareness of pipeline safety issues.

Question 10: With respect to the hazardous liquid rule, the DOT website states that the rule has been with OMB since May 2014. Executive Order 12866 issued by President Clinton in September 1993 and still in effect states that the review by the Office of Information and Regulatory Affairs (OIRA) of the Office of Management and Budget should be completed within 90 days but that the reviews may be extended by the Director of OMB for 30 days or at the request of the agency head. Has OMB requested an extension and if so, how many times? Since OMB received the rule, has anyone in DOT requested an extension of the OMB review and if so, how many times? Did OIRA require an informal review of the rule prior to formal submission? Did OIRA require DOT to get OIRA/OMB approval before formal submitting the rule?

Response 10: The review of this rule at OIRA has been a collaborative effort to identify all available data, in order to produce the strongest possible analysis, which can then inform the decision on what provisions should be proposed to provide the greatest safety benefit to the public. We are continuing to work closely with OIRA to publish our NPRM as soon as possible.

Question 11: The NTSB has recommended that PHMSA require railroads to develop comprehensive response plans to effectively provide for the carriers' ability to respond to worst-case discharges resulting from accidents involving unit trains or blocks of tank cars transporting oil and petroleum products. However, NTSB's investigation of the Enbridge pipeline incident in Marshall, Michigan, found several deficiencies in PHMSA's processes for reviewing response plans currently submitted by pipeline companies. Mr. Butters, what is PHMSA doing on this issue and what has PHMSA done to address the concerns raised with respect to response plans in NTSB's investigation report of the Enbridge incident?

Response 11: PHMSA has worked diligently to revitalize its oil spill response plan program since the Enbridge Pipeline incident in Marshall, Michigan. The following measures have been taken to ensure pipeline operators develop and maintain Oil Spill Response Plans that identify a pipeline worst case discharge and the resources needed to mitigate or reduce the impacts of a pipeline failure:

- PHMSA reengineered the business processes we use to review operator response plans. The revised process is modeled after the U.S. Coast Guard's review procedures, and includes two separate and independent reviews. The first review verifies that plans have the required regulatory elements. The second review provides a quality control of the first review, independently verifies calculations and response resources, and outlines any needed changes if a plan is found to be deficient.
- Our revised review processes includes checks for consistency with 33 CFR Part 154, Appendix C, "Guidelines for Determining and Evaluating Required Response Resources for Facility Response Plans," cited in Appendix A to Part 194.
- Additional full-time positions were dedicated to the Oil Spill Response Program.
- Region inspection staff were trained to augment program staff to eliminate a backlog of plans needing review.

- PHMSA is developing an automated workflow and information system to enhance efficiency of the review process and strengthen the agency's ability to maintain historical records of reviews. Furthermore, the review process and the status of plans will become more transparent.
- PHMSA issued Advisory Bulletin 14-01 (79 FR 4532), "Conforming Facility Response Plans (FRPs) to Appendix A to Part 194—'Guidelines for the Preparation of Response Plans' and Identifying Deficiencies," on January 28, 2014, to remind operators of the circumstances of the Marshall, Michigan, pipeline accident and the need to update FRPs every five years and when new or different operating conditions would affect the implementation of a response plan.
- PHMSA has participated in an interagency coordinating committee with the EPA, USCG, and BSEE to update the National Preparedness for Response Exercise Program (PREP). The draft revised guidelines were published in February 2015.
- PHMSA has developed a process to securely share Oil Spill Response Plans with other federal entities during an emergency (Oil Spill, Natural Disaster, et cetera) and to assist federal, area, and regional Response Teams in updating Area or Regional Contingency plans.
- PHMSA participated in more than 25 oil spill drills and exercises over the last year, including the 2014 Spill of National Significance Executive Seminar, FEMA's Operation Safe Delivery Exercise Series, and two BSEE-led government initiated unannounced exercises. Participation in these drills and exercises assists PHMSA personnel in confirming elements of the Facility Response Plan, such as response resources and contracted Oil Spill Response Organizations (OSRO).

Question 12: Please provide the numbers of pipeline incidents, fatalities, injuries, and property damage for "ALL REPORTED" pipeline incidents annually over the past 10 years. Please provide the numbers of pipeline incidents, fatalities, injuries, and property damage for "SIGNIFICANT INCIDENTS" annually over the past 10 years.

Response 12: The statistics are publicly available from the PHMSA Pipeline Incident 20 Year Trends webpage at: http://phmsa.dot.gov/pipeline/library/datastatistics/pipelineincidenttrends.

PHMSA Pipeline Significant Incidents (1995-2014)

Calendar Year	Number	Fatalities	Injuries	Property Damage Current Year Dollars
1995	259	21	64	$74,291,229
1996	301	53	127	$160,065,297
1997	267	10	77	$108,382,011
1998	295	21	81	$171,394,251
1999	275	22	108	$175,046,770
2000	290	38	81	$253,056,430
2001	233	7	61	$77,717,793
2002	258	12	49	$123,697,382
2003	295	12	71	$162,415,175
2004	309	23	56	$308,921,397
2005	334	16	47	$1,447,015,454
2006	257	19	34	$154,461,987
2007	267	16	46	$147,696,785

2008	279	8	55	$578,904,645
2009	275	13	62	$176,662,656
2010	263	19	104	$1,595,409,433
2011	288	12	51	$413,143,344
2012	249	10	54	$227,262,424
2013	296	9	44	$342,368,527
2014	310	19	96	$294,982,139
Grand Total	**5,600**	**360**	**1,368**	**$6,992,895,128**

PHMSA Pipeline Significant Incidents: Multi-Year Averages (1995-2014)

	Property Damage
3 Year Average	$288,204,363
5 Year Average	$574,633,173
10 Year Average	$537,790,739
20 Year Average	$349,644,756

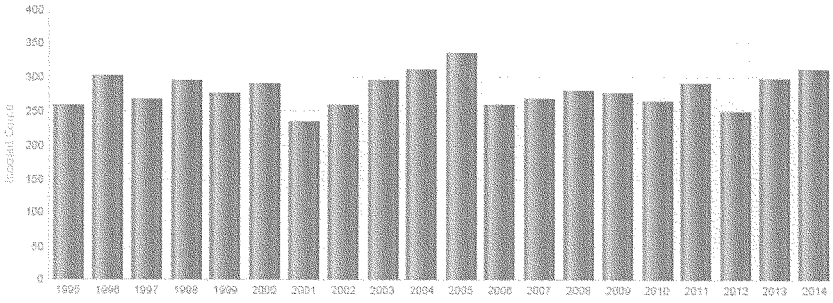
	Fatalities
3 Year Average	13
5 Year Average	14
10 Year Average	14
20 Year Average	18

	Injuries
3 Year Average	65
5 Year Average	70
10 Year Average	59
20 Year Average	68

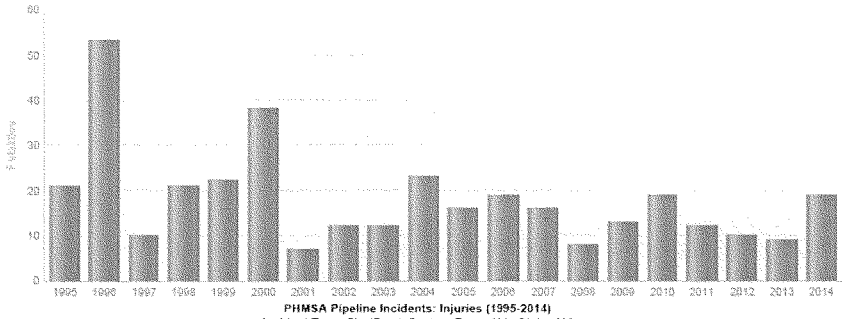
	2015 Year-To-Date
Incidents	88
Fatalities	2
Injuries	12
Property Damage	$41,854,416

	Incident Count
3 Year Average - (2012-2014)	285
5 Year Average - (2010-2014)	281
10 Year Average - (2005-2014)	282
20 Year Average - (1995-2014)	280

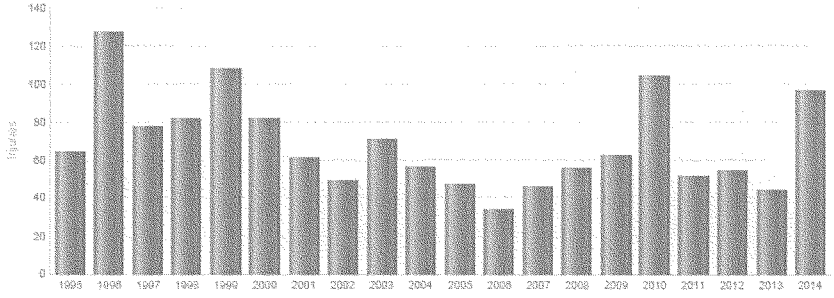
PHMSA Pipeline Incidents: Count (1995-2014)
Incident Type: Significant System Type: ALL State: ALL



PHMSA Pipeline Incidents: Fatalities (1995-2014)
Incident Type: Significant System Type: ALL State: ALL



PHMSA Pipeline Incidents: Injuries (1995-2014)
Incident Type: Significant System Type: ALL State: ALL



PHMSA Pipeline Incidents: Property Damage (1995-2014)
Incident Type: Significant System Type: ALL State: ALL

PHMSA Pipeline All Reported Incidents (1995-2014)

Calendar Year	Number	Fatalities	Injuries	Property Damage As Reported
1995	349	21	64	$53,427,112
1996	381	53	127	$114,467,631
1997	346	10	77	$79,757,922
1998	389	21	81	$126,851,351
1999	339	22	108	$130,110,339
2000	380	38	81	$191,822,840
2001	341	7	61	$63,092,462
2002	642	12	49	$102,167,588
2003	672	12	71	$139,057,814
2004	671	23	60	$267,836,502
2005	720	17	48	$1,245,463,189
2006	639	21	36	$151,983,767
2007	614	16	49	$154,533,794
2008	660	8	57	$565,819,340
2009	628	13	64	$179,070,183
2010	588	22	109	$1,504,216,014
2011	594	14	56	$403,977,193
2012	570	12	57	$228,107,540
2013	617	10	46	$345,458,865
2014	704	19	97	$305,764,476
Grand Total	**10,844**	**371**	**1,398**	**$6,352,985,922**

PHMSA Pipeline All Reported Incidents: Multi-Year Averages (1995-2014)

	Incident Count
3 Year Average - (2012-2014)	630
5 Year Average - (2010-2014)	615
10 Year Average - (2005-2014)	633
20 Year Average - (1995-2014)	542

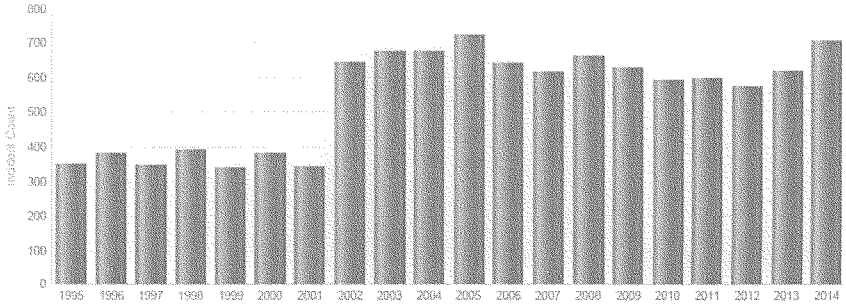
	Fatalities
3 Year Average	14
5 Year Average	15
10 Year Average	15
20 Year Average	19

	Injuries
3 Year Average	67
5 Year Average	73
10 Year Average	62
20 Year Average	70

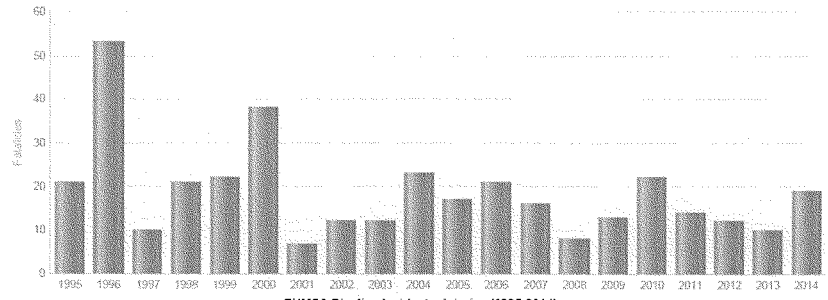
	Property Damage
3 Year Average	$293,110,294
5 Year Average	$557,504,818
10 Year Average	$508,439,436
20 Year Average	$317,649,296

	2015 Year-To-Date
Incidents	223
Fatalities	2
Injuries	12
Property Damage	$45,744,825

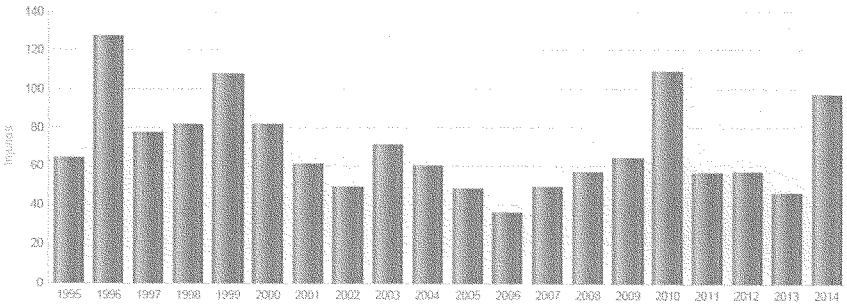
PHMSA Pipeline Incidents: Count (1995-2014)
Incident Type: All Reported **System Type:** ALL **State:** ALL

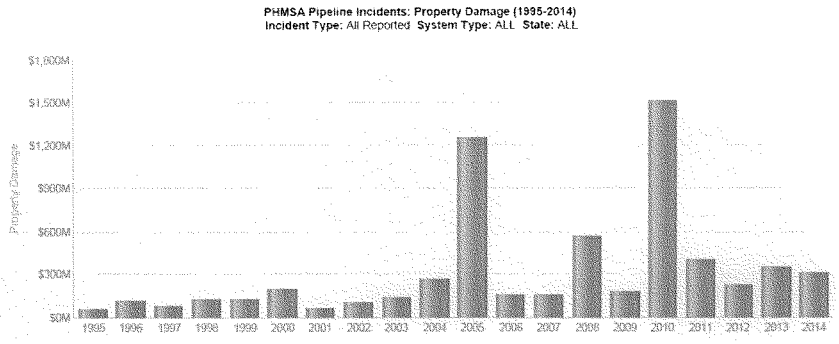


PHMSA Pipeline Incidents: Fatalities (1995-2014)
Incident Type: All Reported **System Type:** ALL **State:** ALL



PHMSA Pipeline Incidents: Injuries (1995-2014)
Incident Type: All Reported **System Type:** ALL **State:** ALL





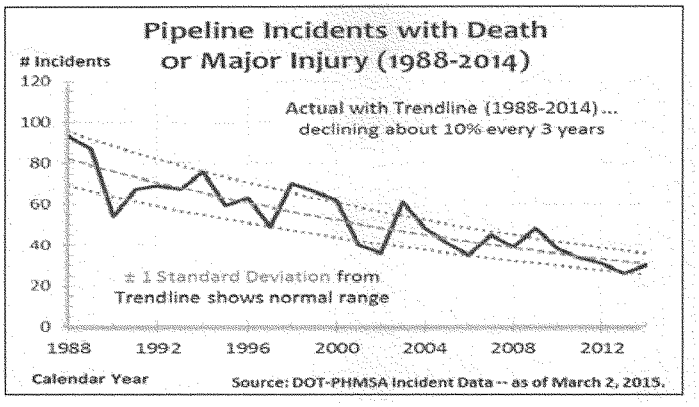
Question 13: Since 2011, the number of significant pipeline incidents has increased from 288 in 2011 to 309 in 2014 (the same number of significant incidents that occurred a decade ago). All reportable incidents have increased from 594 in 2011 to 703 in 2014 (the 5 gallon change was made far before that in 2002). Yet your website shows a reduction in the number of enforcement cases initiated and closed since 2011. Please explain the reduction.

Response 13: PHMSA's inspections are now more comprehensive, cover more pipeline miles and facilities, and include risk-based assessments of areas to be covered. This has resulted in more consolidated but fewer inspections and enforcement cases, which also took more time.

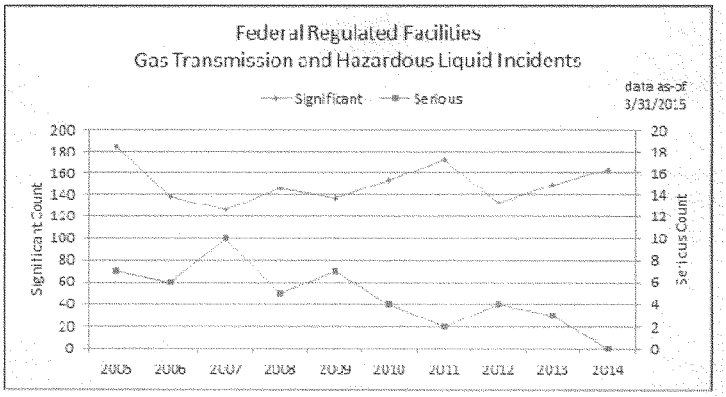
The States have enforcement authority for approximately 80 percent of the nation's pipeline miles, and each State has its own enforcement authorities and tools that generally differ from PHMSA's. However, PHMSA's web site shows comprehensive enforcement documents and data only for PHMSA's enforcement actions, which covers about 20 percent of the pipeline miles—while PHMSA's online pipeline incident data is nationwide, regardless of whether the incident occurred on a pipeline facility enforced by PHMSA or on a facility enforced by the States. Comparing PHMSA's nationwide incident data to PHMSA's limited enforcement data does not offer an accurate relationship between enforcement actions and incidents.

Reported pipeline incidents, including those classified as significant, have increased nationwide. In recent years, PHMSA has communicated to operators increased emphasis on enforcing incident reporting requirements. PHMSA suspects that this enforcement emphasis may have contributed to the increase in operators reporting incidents.

Nationwide, between 1988 and 2014, serious pipeline accidents, categorized as those resulting in death or major injury, have declined by an average of about 10 percent every three years, despite increases in risk exposure measures like population, pipeline mileage, aging infrastructure, and pipeline ton-miles.



To compare PHMSA's enforcement actions to incidents, consider the incident numbers on the pipeline infrastructure that PHMSA has enforcement authority over. While PHMSA investigates serious and significant pipeline accidents on facilities for which it has enforcement authority, it is less likely to investigate incidents not meeting these thresholds since they have minimal property damage and environmental impact. The chart below shows trends in serious and significant incidents on gas transmission and hazardous liquid pipelines for which PHMSA has enforcement authority.



It's difficult to see a trend in significant incidents on facilities enforced by PHMSA, and PHMSA's emphasis on enforcing reporting requirements may have contributed to operators more fully reporting these incidents. Clearly, serious incidents have declined over the years on federally enforced facilities. This suggests that operators may have committed fewer of the most serious pipeline safety violations.

In the early and mid-2000s, PHMSA issued a number of major new regulations. PHMSA clarified its expectations through a range of public communications and enforcement as companies were beginning implementation of these new rules. Improved operator understanding of these newer regulations may be reflected in fewer of the most serious pipeline safety violations.

For those enforcement cases that included either a proposed penalty or proposed compliance order, the ratio of inspection days per alleged violation has increased in 2014:

Year	Inspection days per alleged violation
2011	14.7
2012	14.3
2013	15.6
2014	32.3

Because it can often take a significant period of time for an inspection to result in an enforcement case, inspections occurring in one year can result in alleged violations during a subsequent year. Nevertheless, this increased inspection time to allege a violation is consistent with 1) consolidated but fewer enforcement cases and 2) violations being harder to find and operators committing fewer of the most serious violations.

Looking at penalties, in 2013, PHMSA issued its highest yearly total of proposed penalties in the agency's history ($9,775,400). These were driven by pipeline safety violations brought forward in enforcement cases that were linked to accidents having the most severe consequences, for which penalties are always higher than for violations linked to minor incidents or violations not connected to an incident.

In 2014, there were zero serious incidents on federally enforced gas transmission and hazardous liquid pipelines. PHMSA issued lower amounts of penalties in 2014 primarily because there were fewer accidents having the most severe consequences and fewer associated pipeline safety violations brought forward in enforcement cases than in previous years.

As background, PHMSA is using the additional administrative civil penalty authority given us by Congress in the 2011 Pipeline Safety Act, which is currently limited by statute to a maximum of $200,000 per day per violation and to a maximum of $2 million for a related series of violations. Further, PHMSA continues to use a broad range of enforcement tools to hold operators accountable. Corrective Action Orders and Compliance Orders mandate operators take action. PHMSA has not been shy about using the full force of its enforcement authority when needed. For example:

- Enbridge's Marshall, Michigan, incident brought a $3.7 million civil penalty fine, and Enbridge reported it spent an additional $2.5 billion in complying with PHMSA's Corrective Action Orders.

- ExxonMobil's Laurel, Montana, incident brought a $1 million civil penalty fine, and ExxonMobil reported it spent an additional $34 million in complying with PHMSA's Corrective Action Order.

Pipeline and Hazardous Materials Safety Administration's responses to additional questions for the record:

1. The Committee is interested in PHMSA's role in the buildout of LNG facilities, both for export purposes and in plants intended to provide infrastructure for multimodal vehicular fueling. Our understanding is that PHMSA has acknowledged that its regulations need to be updated to reflect current market conditions with respect to distribution (i.e., the US advances toward energy independence) and the latest developments in industry best practices and technology. Even with that recognition, the Committee appreciates the process of issuing new rules may take several years to complete. Our understanding is that PHMSA has the discretion to address at least some of these issues under its existing regulations. Can you please provide the Committee with the following:

    1. Steps that PHMSA has taken to begin the process of establishing new LNG safety regulations?

    Answer: *PHMSA established a cross-functional team of technical, legal, and regulatory experts, including cross-agency support from the Federal Energy Regulatory Commission, to address this issue. The team evaluated 49 CFR Part 193 for areas that need to be updated. Recommendations are currently being assessed for inclusion in a regulatory change proposal.*

    2. Actions that the agency will take to expedite that process?

    Answer: *To expedite the process, PHMSA is prioritizing regulatory updates by focusing on areas that will, 1) have the greatest safety impact, and 2) generate the least amount of resistance for the first of a series of regulatory updates. Outdated codes and standards that are incorporated by reference (IBRs) are scheduled to be updated in the first regulatory proposal because the old standards do not address key issues or conflict with technological advances incorporated into modern standards. PHMSA expects that incorporating the newest standards will aid operators in the design, construction and maintenance of proposed new LNG facilities.*

    3. The timeline as to when the Committee can expect that process to be completed?

    Answer: *PHMSA's goal is to update outdated IBRs by December 2016. PHMSA will expedite the regulatory proposal to the greatest extent possible. Notwithstanding, this target date may be challenged by the overwhelming number of LNG projects before PHMSA, and the regulatory process.*

    4. A description of the interim steps that PHSMA will take immediately to ensure that its existing regulations are applied in a way that accommodates the latest developments in industry best practices and technology?

Answer: *PHMSA has the ability to review the current code, make interpretations, and issue waivers or provide Special Permits to satisfy the use of any new technology or best practices.*

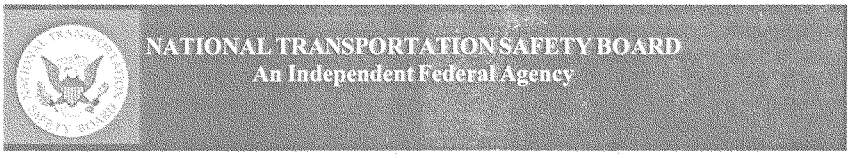
PHMSA is bridging the gap in regulatory change by maintaining Frequently Asked Questions (FAQs) to assist the operators with interpretations of the code in light of changing times and technology. We continue to update these questions as new issues arise.

PHSMA has open communication with any operator that has questions on how to proceed or is seeking regulatory guidance.

To address staffing and workload challenges, PHMSA has dedicated internal and external resources to address LNG reviews and regulatory activities.

2. During last year's State of the Union speech (2014), President Obama spoke about consensus policies in the energy space and *"...putting people to work by building fueling stations that shift more cars and trucks from foreign oil to American natural gas."* PHMSA has critical jurisdiction over LNG facilities that can be used for this exact purpose. I have heard from companies that wish to build these facilities that a new consensus policy is not needed. Rather, that PHMSA's delays in updating standards that govern these small-scale liquefaction plants are out of date. What is PHMSA doing to provide regulatory certainty to support infrastructure to increase the use of LNG as a transportation fuel?

Answer: *PHMSA's mission is to protect the public's safety. As part of that mission, PHMSA will meet with any company in order to review the details and specifics associated with any planned project design, ultimately to insure public safety. This includes reviewing the details of any small-scale liquefaction plant proposal where current code may not seem practical.*



Testimony of the Honorable Christopher A. Hart
Chairman
National Transportation Safety Board
Before the
Subcommittee on Railroads, Pipelines, and Hazardous Materials
Committee on Transportation and Infrastructure
Subcommittee on Rail, Pipeline, and Hazardous Materials
United States House of Representatives
on
Oversight of the Ongoing Rail, Pipeline, and Hazmat Rulemakings
Washington, DC
April 14, 2015

Good morning Chairman Denham, Ranking Member Capuano, and the Members of the Subcommittee. Thank you for inviting the National Transportation Safety Board (NTSB) to testify before you today.

The NTSB is an independent Federal agency charged by Congress with investigating every civil aviation accident and significant incidents in the United States and significant accidents and incidents in other modes of transportation – railroad, highway, marine and pipeline. The NTSB determines the probable cause of accidents and other transportation events and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the Federal Government and other organizations to provide assistance to victims and their family members impacted by major transportation disasters.

Since its inception, the NTSB has investigated more than 140,500 aviation accidents and thousands of surface transportation accidents. In addition, the NTSB has completed 553 major investigative reports in the areas of railroad, pipeline, and hazardous materials safety. On call 24 hours a day, 365 days a year, NTSB investigators travel throughout the country and internationally to investigate significant accidents and develop factual records and safety recommendations with one aim—to ensure that such accidents never happen again. The NTSB's annual Most Wanted List highlights safety-critical actions that the US Department of Transportation (DOT), United States Coast Guard, other Federal entities, states, and organizations need to take to help prevent accidents and save lives.

To date, we have issued over 14,000 safety recommendations to nearly 2,300 recipients. Because we have no formal authority to regulate the transportation industry, our effectiveness depends on our reputation for conducting thorough, accurate, and independent investigations and for producing timely, well-considered recommendations to enhance transportation safety.

In January, the NTSB released its Most Wanted List of Transportation Safety Improvements for 2015. Each year, we develop our Most Wanted List based on safety issues we identify as a result of our accident investigations. Several of this year's Most Wanted List areas involve rail and hazardous materials including "Improve Rail Tank Car Safety," "Implement Positive Train Control in 2015," and "Make Mass Transit Safer." Today, I would like to highlight some specific issues of concern to the NTSB.

Rail Safety: Railroad Tank Car Design

The nation's railroad network is taking on an expanding role—one that has profound economic importance—as a major channel for the transportation of crude oil and other hazardous products. The Association of American Railroads (AAR) states that crude oil shipments have increased on Class I railroads from 4,700 carloads in 2006 to about 400,000 shipments in 2013 and this growth is expected to continue for the foreseeable future.

Furthermore, ethanol traffic transported by railroad increased 442 percent between 2005 and 2010. In 2012, ethanol was the most frequently transported hazardous material in the railroad

system.[1] In 2013, more than 290,000 tank cars transported ethanol.[2] The evolving role of our nation's railroad network in the transportation of flammable crude oil and ethanol requires interested parties to take a comprehensive approach to eliminate or significantly reduce the safety risks. This approach must include improvements to railroad track inspection and maintenance programs, crashworthiness of the tank cars that transport these materials, and information sharing with first responders when accidents do occur.

Indeed, as the volume of flammable liquids transported by rail grows, major accidents such as the December 2013 Casselton, North Dakota, derailment and crude oil fire have become an increasingly commonplace story. Multiple recent serious and fatal accidents reflect substantial shortcomings in tank car design that create an unacceptable public risk. The crude oil unit train involved in the Casselton accident consisted of railroad tank cars designed and manufactured to DOT Specification 111-A100W1 (DOT-111)—a design that presents demonstrated and serious safety concerns when used to transport hazardous liquids such as crude oil and ethanol. Specifically, the NTSB has identified vulnerabilities in the DOT-111 tank car design with respect to tank heads, shells, thermal protection, and fittings that create the unnecessary and demonstrated risk that can result in the release of the tank car product in an accident.[3] Flammable liquids such as crude oil and ethanol frequently ignite and cause catastrophic damage.[4]

The NTSB continues to find that accidents involving the rupture of DOT-111 tank cars carrying hazardous materials often have violent and destructive results. For example, on July 6, 2013, a 4,700-foot-long train that included 72 DOT-111 tank cars loaded with crude oil from the Bakken fields derailed in Lac-Mégantic, Quebec, triggering an intense fire fed by crude oil released from at least 60 cars. The fire engulfed the surrounding area and completely destroyed the town center. Forty-seven people died. The NTSB assisted the Transportation Safety Board of Canada (TSB) in its investigation of that accident, and a final report was issued on August 19, 2014.[5] Both the NTSB and the TSB issued safety recommendations asking the Federal Railroad Administration (FRA) and the Pipeline and Hazardous Materials Safety Administration (PHMSA), as appropriate, to require railroads to evaluate the safety and security risks of crude oil train routes and select routes that avoid populous and other sensitive areas; require railroads to develop comprehensive emergency response plans for worst-case releases resulting from accidents; and require shippers to

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[1] FRA Emerg. Order No. 28, 78 Fed. Reg. at 48221; *see also* NTSB, Letter to The Honorable Cynthia L. Quarterman, Administrator, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation (Jan. 21, 2014), at 7 n. 11-13 (and citations therein).

[2] NTSB, *2015 Most Wanted List: Improve Rail Tank Car Safety*, (2015).

[3] R-12-5 through -8, R-7-4 (reiterated).

[4] *See, e.g.*, NTSB, *Derailment of CN Freight Train U70691-18 With Subsequent Hazardous Materials Release and Fire Cherry Valley, Illinois, June 19, 2009*, Rpt. No. NTSB/RAR-12/01 (Feb. 14, 2012), at 88 (concluding that, in accident involving breaches of DOT-111 tank cars, "If enhanced tank head and shell puncture-resistance systems such as head shields, tank jackets, and increased shell
thicknesses had been features of the DOT-111 tank cars involved in this accident, the release of hazardous materials likely would have been significantly reduced, mitigating the severity of the accident"). The capacity of a tank car is about 30,000 gallons or 675 barrels of oil.

[5] Transportation Safety Board of Canada, *Runaway and Main-Track Derailment, Montreal, Maine & Atlantic Railway Freight Train MMA-002, Mile 0.23, Sherbrooke Subdivision, Lac-Mégantic, Quebec, 06 July 2013* (2014).

sufficiently test and properly classify hazardous materials such as crude oil prior to shipment.[6] PHMSA and the FRA continue to work to implement these recommendations.

In addition, the NTSB is investigating, has investigated, or is participating in the investigation of a spate of recent similar accidents in the United States that demonstrate the destructive results when tank cars containing flammable liquids are ruptured or exposed to intense pool fires, including:

- The February 16, 2015, CSX unit train derailment at near Mount Carbon, West Virginia, 35 miles southeast of Charleston, West Virginia, in which approximately 28 Casualty Prevention Circular-1232[7] (CPC-1232) tank cars in a 109-tank car crude oil unit train derailed and released an unknown amount of crude oil onto the ground, which immediately ignited. About 300 people were evacuated from within a one-half mile radius of the scene.
- The April 30, 2014, crude oil until train derailment in Lynchburg, Virginia, in which three tank cars derailed into the James River and one CPC-1232 tank car breached, spilling its contents into the river. This accident is still under investigation.
- The July 11, 2012, Norfolk Southern Railway Company train derailment in a Columbus, Ohio, industrial area in which three derailed DOT-111 tank cars released about 54,000 gallons of ethanol, with energetic rupture of one tank car in a post-accident fire.
- The October 7, 2011, Tiskilwa, Illinois, train derailment of 10 DOT-111 tank cars resulting in fire, energetic rupture of several tank cars, and the release of more than 140,000 gallons of ethanol.
- The June 19, 2009, Canadian National Railway unit train derailment in Cherry Valley, Illinois, in which 13 of 19 derailed DOT-111 tank cars breached, caught fire, and released more than 230,000 gallons of ethanol. The post-accident fire resulted in one death, nine injuries, and the evacuation of 600 houses within half a mile of the accident site.
- The October 20, 2006, Norfolk Southern Railway Company unit train derailment in New Brighton, Pennsylvania, in which 23 DOT-111 tank cars derailed, fell from a bridge, caught fire, and released more than 485,000 gallons of ethanol.

Moreover, the use of unit trains increases the risk of catastrophic damage should a derailment occur. The risks are greater in unit train operations because hazardous materials are transported in high density. For example, a unit train of 75 to 100 fully loaded 30,000-gallon tank cars typically transports between 2.1 million and 2.8 million gallons of hazardous materials.[8] The Mount Carbon, Lynchburg, Casselton, Cherry Valley, and New Brighton accidents involved unit

[6] R-14-1, R-14-2, R-14-3, R-14-4, R-14-5, and R-14-6.

[7] In 2011, AAR issued CPC-1232, which outlines new standards for tank cars constructed after October 1, 2011, for use in ethanol and crude oil service. These standards, for example, call for DOT-111 tank cars that transport flammable liquids in packing groups I and II (the highest-risk of the three packing groups, classified according to flash and boiling points) to be built with protective "jackets" around their tanks, constructed of normalized steel at least 7/16 inch thick, and call for non-jacketed tanks to be constructed from normalized steel (steel that has been subjected to a heat-treating process that improves its material properties) at least half an inch thick. *See* AAR, *Manual of Standards and Recommended Practices: Specifications for Tank Cars*, M-1002. Corresponding Federal regulations require steel thickness of at least 7/16 inch, but they allow for the use of non-normalized steel and do not require incorporation of jackets or head shields. *See* 49 C.F.R. part 179, subpart D.

[8] R-12-5 through -8, R-7-4 (reiterated), at 4.

trains. Improvements in tank car safety would most effectively be targeted to those hazardous materials commodities that are transported by unit train, such as denatured fuel ethanol and crude oils, and that pose the greatest risks when released.

Federal requirements simply have not kept pace with evolving demands placed on the railroad industry and evolving technology and knowledge about hazardous materials and accidents. While CPC-1232 provides a level of protection greater than corresponding Federal requirements, the NTSB is not convinced that these modifications offer sufficient safety improvements.[9] The NTSB continues to assert that DOT-111 tank cars, or tank cars of any successor specification, that transport hazardous materials should be more puncture resistant and have effective thermal protection systems. This can be accomplished through the incorporation of additional protective features such as full head shields, jackets, thermal insulation, appropriate pressure relief devices, and thicker head and shell materials. Because the average service life of a tank car may run 20-50 years, it is imperative that industry, the FRA, and PHMSA take action now to address hazards that otherwise would exist for another half- generation or longer.

Although important decisions are clearly ahead for regulators and industry, the NTSB is pleased that at least some progress has been made. PHMSA published a notice of proposed rulemaking (NPRM) in August 2014 proposing safety improvements to DOT-111 tank cars used in trains hauling 20 or more carloads of Class 3 flammable liquids such as crude oil or ethanol.[10] The NPRM addresses NTSB safety recommendations to require that general service tank cars authorized for transportation of denatured fuel ethanol and crude oil have enhanced tank head and shell puncture resistance systems and top fittings protection that exceed existing design requirements for DOT-111 tank cars, as well as other improvements.[11] The NPRM also addresses the Lac-Mégantic recommendations issued in January 2014.[12] We remain engaged in that rulemaking proceeding. PHMSA submitted a draft final rule to the Office of Management and Budget for formal review on February 5, 2015, and we will continue to carefully monitor PHMSA's progress and will ensure that decision-makers have the full benefit of the lessons the NTSB has learned through its investigations.

Two weeks ago, the NTSB issued new recommendations that PHMSA require tank cars used to transport Class 3 flammable liquids be equipped with (1) thermal protection systems and (2) appropriately sized pressure relief devices that allow the release of pressure under fire conditions to ensure thermal performance that meets or exceeds the thermal performance standards outlined in Title 49 CFR § 179.18(a).[13] We also recommended that PHMSA require an aggressive, intermediate progress milestone schedule, such as a 20 percent yearly completion metric over a five-year implementation period, for the replacement or retrofitting of legacy DOT-111 and CPC-1232 tank cars to appropriate tank car performance standards, and that PHMSA establish a publicly available reporting mechanism that reports, at least annually, progress on retrofitting and replacing tank cars subject to thermal protection system performance standards.[14]

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[9] NTSB, Comments on PHMSA notice of proposed rulemaking: Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains, (September 26, 2014), at 11.
[10] 79 Fed. Reg. 45016 (August 1, 2014).
[11] R-12-5 and R-12-6.
[12] R-14-1, R-14-3, R-14-4, and R-14-6.
[13] R-15-14 and R-15-15.
[14] R-15-16 and R-15-17.

We are aware of several other accidents in which crude oil releases caused major environmental damage and fires. These accidents include:

- The March 27, 2013, derailment of a Canadian Pacific train involving 14 tank cars of western Canadian crude oil in Parkers Prairie, Minnesota, that released 15,000 gallons of product.
- The January 31, 2014, derailment of 11 tank cars of a Canadian National (CN) train transporting North Alberta crude oil in New Augusta, Mississippi, releasing 90,000 gallons of product.
- The February 13, 2014, derailment of 19 tank cars of a Norfolk Southern train carrying western Canadian heavy crude oil in Vandergrift, Pennsylvania, releasing 10,000 gallons of product.
- The January 7, 2014, derailment of five tank cars of a CN train carrying western Canadian (Manitoba/Saskatchewan) crude oil in Plaster Rock, New Brunswick, releasing 60,000 gallons of product.
- The February 14, 2015, derailment of a CN crude oil unit train with 100 derailed tank cars 29 cars in a remote area near Gogama, Ontario, while traveling at 38 mph. Investigators found that 19 of the cars were breached and released more than 264,000 gallons of crude oil.
- The March 5, 2015, derailment of a BNSF crude oil unit train with 103 tank cars traveling at 23 miles-per-hour (mph) derailed 21 tank cars in a rural area south of Galena, Illinois. A post-accident pool fire that began with product released from damaged valves and fittings on some tank cars resulted in five tank car thermal failures.
- The March 7, 2015, derailment of a CN crude oil unit with 94 tank cars while traveling at 43 mph derailed 39 tank cars at the west end of a CN rail bridge that traversed the Macaming River near Gogama, Ontario, which is about 23 miles from the above-mentioned February 14, 2015, accident location. Five tank cars came to rest in the river and the remaining cars piled up on the west side of the bridge where tank cars were breached, released product, and ignited a large pool fire that destroyed the rail bridge.[15]

First Responder Notification

When accidents involving hazardous materials do occur, first responders must have the knowledge to effectively deal with the aftermath. Following the 2011 ethanol release and fire in Cherry Valley, Illinois, the NTSB reiterated its 2007 recommendation that PHMSA and the FRA require railroads to immediately provide emergency responders with accurate, real-time information on hazardous materials on a train.[16]

More recently, following the freight train derailment in Paulsboro, New Jersey, in November 2012, the NTSB again saw the critical importance of providing immediate, accurate information to first responders about the contents of a derailed tank car and reiterated this recommendation. In August 2014, the NTSB further recommended that railroads be required to inform state and local

[15] The NTSB is an observer to the Transportation Safety Board (TSB) of Canada's investigation.
[16] R-07-2 and R-07-4.

emergency planning committees about the commodities traveling through their areas and to assist with the development of emergency response plans.[17]

Any improvement to railroad tank car safety must proceed hand-in-hand with an improved approach to ensuring first responders have adequate information to take appropriate life-saving actions. Although PHMSA indicated it is working to implement the August 2014 recommendation as part of its rulemaking proceeding to improve DOT-111 tank cars, the recommendation has been classified "Open—Unacceptable Response" because we believe emergency responders and local and state emergency planning committees should have adequate information concerning shipments of *all* hazardous materials, not just flammable liquids.

Rail Safety: Positive Train Control (PTC)

On December 1, 2013, four people lost their lives and 61 others were injured when a Metro-North commuter train derailed in the Bronx after entering a curve with a 30 mph speed limit at 82 mph.[18] We determined the probable cause of the derailment was the engineer's noncompliance with the 30 mph speed restriction because he had fallen asleep due to undiagnosed severe obstructive sleep apnea. A contributing factor was the absence of a positive train control system that would have automatically applied the brakes to enforce the speed restriction. This is one of many accidents that would have been prevented by PTC.

For nearly 40 years, the NTSB has investigated numerous train collisions and over-speed derailments caused by operational errors involving human performance failures. The NTSB attributed these human performance failures to a variety of factors, including fatigue, sleep disorders, medications, loss of situation awareness, reduced visibility, and distractions in the operating cab such as the use of cell phones. Many of these accidents occurred after train crews failed to comply with train control signals, follow operating procedures in non-signaled or "dark" territories, or adhere to other specific operating rules such as returning track switches to normal position after completing their work at railroad sidings.

PTC systems help prevent derailments caused by over-speeding and train-to-train collisions caused by slowing or stopping trains that are not being operated in accordance with the signal systems and operating rules. They also help protect track workers from being struck by trains. The first NTSB-investigated accident that train control technology would have prevented occurred in 1969, when four people died and 43 were injured in the collision of two Penn Central commuter trains in Darien, Connecticut.[19] The NTSB recommended, in response to that accident, that the FRA study the feasibility of requiring railroads to install an automatic train control system, the precursor to today's PTC systems.[20]

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[17] R-14-14.
[18] NTSB, *Metro North Railroad Derailment*, Accident Brief No. RAB-14/12 (October 24, 2014).
[19] NTSB, *Penn Central Company, Collision of Trains N-48 and N-49 on August 20, 1969*, Rpt. No. RAR-70-03 (October 14, 1970).
[20] R-70-020.

In 2008, more lives were lost in a PTC-preventable accident when a Metrolink commuter train and a Union Pacific freight train collided head-on in Chatsworth, California, killing 25 people and injuring 102 others. The NTSB concluded that the Metrolink engineer's use of a cell phone to send text messages distracted him from his duties. PTC would have prevented that tragedy. In the aftermath of the Chatsworth accident, Congress enacted the Rail Safety Improvement Act (RSIA) of 2008, which requires each Class I rail carrier and each provider of regularly scheduled intercity passenger or commuter rail transportation to implement a PTC system by December 31, 2015, on each line over which intercity passenger or commuter service is operated or over which poison- or toxic-by-inhalation hazardous materials are transported.[21] We know that several rail carriers have stated that they will not meet the 2015 deadline. This is disappointing.

Meanwhile, we continue to see accidents that could be prevented by PTC:

- In September 2010, near Two Harbors, Minnesota, human error and fatigue contributed to the collision of two freight trains, injuring five crew members.
- In April 2011, near Red Oak, Iowa, fatigue contributed to the rear-end collision of a coal train with a standing maintenance-of-way equipment train, killing two crew-members.
- In May 2011, in Mineral Springs, North Carolina, human error contributed to the rear-end collision of two freight trains, killing two crew-members and injuring two more.
- In May 2011, in Hoboken, New Jersey, human error contributed to the collision of a train with the bumping post at the end of the track.
- In January 2012, near Westville, Indiana, inattentiveness contributed to the collision of three trains, injuring two crew-members.
- In June 2012, near Goodwell, Oklahoma, human inattentiveness contributed to the collision of two freight trains, killing three crew members.
- In July 2012, near Barton County, Missouri, human error contributed to the collision of two freight trains, injuring two crew-members.
- In May 2013, near Chaffee, Missouri, inattentiveness and fatigue contributed to the collision of two freight trains, injuring two crew-members and causing the collapse of a highway bridge.
- In December 2013, near Keithville, Louisiana, human error contributed to the collision of two freight trains, injuring four crew-members.

Since 2004, in the 29 PTC-preventable freight and passenger rail accidents that the NTSB investigated, 68 people died, more than 1,100 were injured, and damages totaled millions of dollars.[22] The NTSB files are filled with accidents that could have been prevented by PTC, and for each and every day that PTC implementation is delayed, the risk of an accident remains.

There is much debate by policymakers on extending the 2015 deadline established by the RSIA. Some railroads may meet this deadline. For those railroads that have made the difficult decisions and invested millions of dollars, they have demonstrated leadership. For those railroads

[21] Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, § 104 (2008).
[22] These accidents do not include Metro-North accidents.

that will not meet the deadline, there should be a transparent accounting for actions taken – and not taken – to meet the deadline so that regulators and policymakers can make informed decisions.[23]

Rail Safety: Inward- and Outward-Facing Audio and Video Recorders in Locomotive Cabs

The December 1, 2013, Metro-North accident in the Bronx raised questions about the actions of the engineer prior to the crash. The NTSB has repeatedly called for railroad carriers to install inward- and outward-facing audio and image recorders to answer similar questions that have arisen in other accidents. Since the 1990s, the NTSB has recommended that the FRA require audio recorders inside locomotive cabs. In its investigation of the February 16, 1996, collision between a Maryland Rail Commuter train and an Amtrak train near Silver Spring, Maryland, in which no operating crewmembers survived, the NTSB was unable to determine whether crewmember activities leading up to the accident contributed to the accident. [24]

Audio and image recorders in locomotives and cab car operating compartments are critically important because they could assist NTSB investigators and others understand what happened in a train before an accident. Significantly, these recordings would help railroad management *prevent* accidents by identifying safety issues before they lead to injuries and loss of life. The railroads could use the information to develop valuable training and coaching tools.

In the NTSB's investigation of the Bryan, Ohio, railroad accident in 1999, with no surviving crewmembers, it reiterated this safety recommendation.[25] However, the FRA stated that no action would be taken to implement the recommendation. Since the FRA's refusal to act on the recommendation of in-cab audio recorders, the NTSB has investigated additional accidents in which audio recorders, along with inward-facing video recorders, would have provided information to help determine probable cause and improve safety.

The Chatsworth tragedy again made the case crystal-clear for understanding the activities of crewmembers in the minutes and seconds leading up to accidents. Discussing the strong safety case for a requirement for inward-facing cameras in locomotives, the NTSB noted that:

> [i]n all too many accidents, the individuals directly involved are either limited in their recollection of events or, as in the case of the Chatsworth accident, are not available to be interviewed because of fatal injuries. In a number of accidents the NTSB has investigated, a better knowledge of crewmembers' actions before an accident would have helped reveal the key causal factors and would perhaps have facilitated the development of more effective safety recommendations.[26]

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[23] R-13-23 and R-13-27.

[24] NTSB, *Collision and Derailment of Maryland Rail Commuter Marc Train 286 and National Railroad Passenger Corporation Amtrak Train 29 Near Silver Spring, Maryland On February 16,1996*, Rpt. No. NTSB/RAR-97/02 (July 3, 1997), R-97-9.

[25] NTSB, *Collision Involving Three Consolidated Rail Corporation Freight Trains Operating in Fog on a Double Main Track Near Bryan, Ohio on January 17, 1999*, Rpt. No. NTSB/RAR-01/01 (May 9, 2001).

[26] NTSB, *Collision of Metrolink Train 111 With Union Pacific Train LOF65-12 Chatsworth, California September 12, 2008*, Rpt. No. NTSB/RAR-10/01 (Jan. 21, 2010), at 58.

Accordingly, the NTSB recommended that the FRA require the installation, in control compartments, of "crash- and fire-protected inward- and outward-facing audio and image recorders capable of providing recordings [for at least 12 hours] to verify that train crew actions are in accordance with rules and procedures that are essential to safety as well as train operating conditions."[27] The NTSB also recommended that the FRA "[r]equire that railroads regularly review and use in-cab audio and image recordings . . . to verify that train crew actions are in accordance with rules and procedures that are essential to safety."[28]

The NTSB reiterated these important recommendations in its report on the collision of a BNSF coal train with the rear end of a standing BNSF maintenance-of- way equipment train near Red Oak, Iowa, which resulted in fatal injuries to the two crewmembers of the striking train.[29] Damage was in excess of $8.7 million. As the NTSB stated in its report, the accident again demonstrated the need for in-cab audio and image recording devices to better understand (and thereby prevent) serious railroad crashes that claim the lives of crewmembers, passengers, and the public.

In response to the December 2013 Metro-North derailment, we issued our longstanding recommendations on this subject directly to Metro-North Railroad.[30] On May 14, 2014, Metro-North responded to the recommendations stating that it had been authorized to procure cameras with 12-hour continuous audio and image recording capability for the locomotives and operating cabs of its M-7 and M-8 equipment. Metro-North further stated that its Safety Department would work on integrating the data as part of the Metro-North System Safety Program Plan, and the recordings would be used for training, efficiency testing, hazard analysis, and accident investigations. Metro-North has since advised the NTSB that it intends to install cameras on its entire fleet.

We have been encouraged by the inclusion of these recommendations in rail safety legislation, and we hope this can be part of a rail safety legislative proposal that may be considered by this Congress. In the meantime, we will continue to address the recommendation on an individual railroad basis and with the FRA.

Pipeline Safety: Integrity Management of Natural Gas Pipelines

On March 12, 2014, in East Harlem in New York City, two multi-use, five-story tall buildings were destroyed by a natural gas explosion and subsequent fire. Eight people died, more than 48 people were injured, and more than 100 families were displaced from their homes. On December 17, 2013, natural gas from a cast iron distribution pipeline leak resulted in the explosion of a two-story apartment building in Birmingham, Alabama. One person was killed and eight people were injured. While these explosions remain under NTSB investigation, they are a grim reminder

[27] R-10-1.
[28] R-10-2.
[29] NTSB, *Collision of BNSF Coal Train With the Rear End of Standing BNSF Maintenance-of-Way Equipment Train Red Oak, Iowa on April 17, 2011)*, Rpt. No. NTSB/RAR-12/02 (April 24, 2012).
[30] R-14-08, R-14-09.

that efforts to improve pipeline integrity management practices must continue, particularly for pipelines located in high consequence areas.

There are three types of pipeline systems through which gas is transported from the source to the end users: gathering, transmission, and distribution systems. Gathering lines transport gas from a production facility to a transmission line, and transmission lines transport gas from a gathering line to a distribution facility.[31] There are approximately 298,000 miles of onshore natural gas transmission pipelines in the United States. Compared to gas distribution pipelines, transmission pipelines typically have larger diameters and significantly higher operating pressures. Therefore, the potential impact of a transmission pipeline incident on its surroundings is high. Transmission pipelines are classified as either interstate or intrastate. Interstate pipelines are subject to Federal oversight, and most states assume oversight through PHMSA for intrastate pipelines. A state must adopt the minimum Federal regulations and also provide for enforcement sanctions substantially the same as those authorized by the Federal pipeline safety regulations. Based on mileage, 64 percent of all gas transmission pipelines are interstate pipelines, while 36 percent are intrastate pipelines.

Since 2004, the operators of these pipelines have been required by PHMSA to develop and implement integrity management (IM) programs to ensure the integrity of their pipelines in populated areas (defined as high consequence areas [HCAs]) to reduce the risk of injuries and property damage from pipeline failures.[32] An operator's IM program is a management system designed and implemented by pipeline operators to ensure their pipeline system is safe and reliable. An IM program consists of multiple components, including procedures and processes for identifying HCAs, determining likely threats to the pipeline within the HCA, evaluating the physical integrity of the pipe within the HCA, and repairing or remediating any pipeline defects found. These procedures and processes are complex and interconnected. Effective implementation of an IM program relies on continual evaluation and data integration. The IM program is an ongoing program that is periodically inspected by PHMSA and/or state regulatory agencies to ensure compliance with regulatory requirements.

In the last six years, the NTSB completed three major gas transmission pipeline accident investigations where deficiencies with the operators' IM programs and PHMSA oversight were identified as a concern.[33] These three accidents—located in Palm City, Florida; San Bruno, California; and Sissonville, West Virginia—resulted in eight fatalities, more than 50 injuries, and 41 homes destroyed with many more damaged. We are also evaluating IM oversight in the ongoing East Harlem and Birmingham investigations.

Earlier this year, the NTSB's Safety Research Division conducted a safety study to build upon the results from the completed investigations and use additional research to identify weaknesses in the implementation of gas transmission pipeline integrity management programs in

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[31] 49 CFR § 192.3.

[32] PHMSA's gas transmission IM regulations may be found at 49 CFR Part 192, Subpart O.

[33] NTSB, *Columbia Gas Transmission Corporation Pipeline Rupture Sissonville, West Virginia on December 11, 2012*, Rpt. No. NTSB/PAR-14/01 (February 19, 2014); NTSB, *Rupture of Florida Gas Transmission Pipeline and Release of Natural Gas Near Palm City, Florida*, Accident Brief No. NTSB/PAB-13/01 (August 13, 2013); NTSB, *Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire San Bruno, California on September 9, 2010*, Rpt. No. NTSB/PAR-11/01 (August 30, 2011).

HCAs. The study, *Integrity Management of Gas Transmission Pipelines in High Consequence Areas*, found that while PHMSA's gas IM requirements have kept the rate of corrosion failures and material failures of pipe or welds low, there is no evidence that the overall occurrence of gas transmission pipeline incidents in HCA pipelines has declined.[34] The study identified areas where improvements can be made to further enhance the safety of gas transmission pipelines in HCAs.

We recognize that IM programs are complex and require expert knowledge and integration of multiple technical disciplines including engineering, material science, geographic information systems, data management, probability and statistics, and risk management. This complexity requires pipeline operator personnel and pipeline inspectors to have a high level of knowledge to adequately perform their functions. This complexity can make IM program development, and the evaluation of operators' compliance with IM program requirements, difficult. The study helped the NTSB determine that PHMSA resources in guiding both operators and inspectors need to be expanded and improved.

The effectiveness of an IM program depends on many factors, including how well threats are identified and risks are estimated. This information guides the selection of integrity assessment methods that discover pipeline system defects that may need remediation. The study found that aspects of the operators' threat identification and risk assessment processes require improvement. Furthermore, the study found that of the four different integrity assessment methods (pressure test, direct assessment, in-line inspection, and other techniques), in-line inspection yields the highest per-mile discovery of pipe anomalies and the use of direct assessment as the sole integrity assessment method has numerous limitations. Compared to their interstate counterparts, intrastate pipeline operators rely more on direct assessment and less on in-line inspection.

As a result of the safety study, the NTSB issued 28 recommendations.[35] The recommendations include developing expanded and improved guidance for operators and inspectors for:

- The development of criteria for threat identification and elimination;
- Consideration of interactive threats; and
- Increased knowledge of the critical components associated with risk assessment approaches.

The NTSB also recommended evaluating and improving gas transmission pipeline integrity assessment methods, including increasing the use of in-line inspection and eliminating the use of direct assessment as the sole integrity assessment method. Other recommendations include: evaluating the effectiveness of the approved risk assessment approaches for IM programs; developing minimum professional qualification criteria for all personnel involved in IM programs; and improving data collection and reporting, including geospatial data, to support the development of probabilistic risk assessment models and the evaluation of IM programs by state and Federal regulators.

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[34] NTSB, *Integrity Management of Gas Transmission Pipelines in High Consequence Areas*, No. NTSB/SS-15/01 (January 27, 2015).
[35] P-15-1 through -28.

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011[36] (the 2011 Act) requires PHMSA to conduct an evaluation on (1) whether IM should be expanded beyond current HCAs, and (2) whether doing so would mitigate the need for class location requirements for gas transmission pipelines. Consequently, PHMSA began a series of rulemaking activities to consider whether IM requirements should be changed, including adding more prescriptive language in some areas, and whether other issues related to system integrity should be addressed by strengthening or expanding non-IM requirements. Among the specific issues PHMSA is considering concerning IM requirements are whether the definition of an HCA should be revised and whether additional restrictions should be placed on the use of specific pipeline assessment methods.[37] The NTSB provided comments and will monitor these rulemakings to ensure PHMSA has the full benefit of the lessons learned through our investigations and safety study.

Pipeline Safety: Integrity Management of Hazardous Liquid Pipelines

As we learned from the July 25, 2010 pipeline rupture in Marshall, Michigan, and the subsequent release of more than 840,000 gallons of crude oil into nearby wetlands, Talmadge Creek, and the Kalamazoo River, ensuring adequate integrity management programs for pipelines transporting hazardous liquids remains critically important. No fatalities were reported from the crude oil spill; however, local residents self-evacuated from their houses and about 320 people reported symptoms consistent with crude oil exposure.[38] The Marshall, Michigan, spill is among the largest and costliest onshore oil spills in the United States

The NTSB determined that the probable cause of the pipeline rupture was corrosion fatigue cracks that grew and coalesced from crack and corrosion defects under disbonded polyethylene tape coating, producing a substantial crude oil release that went undetected by Enbridge's control center for more than 17 hours. The rupture and prolonged release were made possible by pervasive organizational failures at Enbridge and PHMSA's weak regulation for assessing and repairing crack indications. Contributing to the accident was PHMSA's ineffective oversight of pipeline integrity management programs, control center procedures, and public awareness. The investigation also determined contributing factors to the severity of the environmental consequences were (1) Enbridge's failure to identify and ensure the availability of well-trained emergency responders with sufficient response resources, (2) PHMSA's lack of regulatory guidance for pipeline facility response planning, and (3) PHMSA's limited oversight of pipeline emergency preparedness that led to the approval of a deficient facility response plan.

The NTSB is pleased that PHMSA has made progress in implementing the recommendations from this investigation, including PHMSA's development of an NPRM titled "Pipeline Safety: Safety of On-Shore Hazardous Liquid Pipelines." Among other things, the NPRM proposes to incorporate, by reference, consensus standards governing conduct of assessments of the

[36] Pub. L. No. 112-90, § 5 (2012).
[37] The two relevant notices are: (1) Pipeline Safety: Safety of Gas Transmission Pipelines -Advanced Notice of Proposed Rulemaking, 76 Fed. Reg. 5308 (Aug. 25, 2011); and (2) Pipeline Safety: Safety of Gas Transmission Pipelines -Advance Notice of Proposed Rulemaking; Extension of Comment Period, 76 Fed. Reg. 70953 (Nov. 16, 2011).
[38] NTSB, *Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release Marshall, Michigan on July 25, 2010*, Rpt. No. NTSB/PAR-12/01 (July 10, 2012).

physical condition of in-service pipelines using inline inspection, internal corrosion direct assessment, and stress corrosion cracking direct assessment.

PHMSA also informed us they are considering revisions to the Control Room Management regulations of the Pipeline Safety Regulations to more explicitly require team training. PHMSA indicated it plans to consider this option through the NPRM titled "Pipeline Safety: Operator Qualification, Cost Recovery, and Other Proposed Changes."

In addition, PHMSA issued two advisory bulletins. The first, Advisory Bulletin 2014-01, was issued on January 28, 2014.[39] It notified pipeline operators (1) of the circumstances of the Marshall, Michigan, pipeline accident, and (2) of the need to identify deficiencies in facility response plans and to update these plans as necessary to conform with the nonmandatory guidance for determining and evaluating required response resources as provided in Appendix A of Title 49 *Code of Federal Regulations* Part 194, "Guidelines for the Preparation of Response Plans." The second, Advisory Bulletin 2014-02, was issued on May 6, 2014.[40] It was directed to all hazardous liquid and natural gas pipeline operators, and it described the circumstances of the accident in Marshall, Michigan—including the deficiencies observed in Enbridge Incorporated's integrity management program—and asked them to take appropriate action to eliminate similar deficiencies.

Hazardous Materials Safety: Air Transportation of Lithium Batteries

There are two types of lithium batteries: primary and secondary. Primary lithium batteries are non-rechargeable and are commonly used in items such as watches and pocket calculators. They contain metallic lithium that is sealed in a metal casing. The metallic lithium will burn when exposed to air if the metal casing is damaged, compromised, or exposed to sustained heating. Secondary lithium batteries, also known as lithium-ion batteries, are rechargeable and are commonly used in items such as cameras, cell phones, laptop computers, and hand power tools. Secondary lithium batteries contain electrically charged lithium ions, and a flammable liquid electrolyte. External damage or overheating of the battery can result in thermal runaway or the discharge of flammable electrolyte. Another type of secondary battery, known as lithium polymer batteries, contains a flammable polymeric material rather than a liquid, as the electrolyte. Halon suppression systems, the only fire suppression systems certified for aviation, can be used to help control flames in lithium battery fires but will not suppress thermal runaway reactions.

The demand for primary and secondary lithium batteries has skyrocketed since the mid-1990s as the popularity and use of electronic equipment of all types has grown. As the use of lithium batteries has increased, the number of incidents involving fires or overheating of lithium batteries, particularly in aviation, has likewise grown. The NTSB has investigated three such aviation accidents: Los Angeles, California; Memphis, Tennessee; and Philadelphia, Pennsylvania.

The fires in these accidents included both primary and secondary lithium batteries, and the NTSB issued several recommendations as a result of these investigations. As a result of its investigation of the Los Angeles and Memphis incidents, the NTSB recommended that PHMSA,

[39] 79 Fed. Reg. 4532 (Jan. 28, 2014).
[40] 79 Fed. Reg. 25990 (May 6, 2014).

with the FAA, evaluate the fire hazards posed by lithium batteries in an aviation environment and require that appropriate safety measures be taken to protect the aircraft and occupants. The NTSB also recommended that packages containing lithium batteries be identified as hazardous materials, including appropriate labeling of the packages and proper identification in shipping documents when transported on aircraft. These recommendations have been closed with acceptable action by the regulators.

Following the Philadelphia accident, the NTSB issued six safety recommendations urging PHMSA to address the problems with lithium batteries on a number of fronts, including reporting all incidents; retaining and analyzing failed batteries; researching the modes of failure; and eliminating regulatory provisions that permit limited quantities of these batteries to be transported without labeling, marking, or packaging them as hazardous materials. In January 2008, the NTSB issued additional recommendations to PHMSA and the FAA to address the NTSB's concerns about the lack of public awareness about the overheating and ignition of lithium batteries. PHMSA issued an NPRM[41] in January 2010 to address some of these recommendations, and the final rule was issued in August 2014. The final rule is discussed in further detail below.

In September 2010, a Boeing 747-400F, operated by UPS, crash landed on a military base in Dubai, United Arab Emirates (UAE), while the crew was trying to return to the airport for an emergency landing due to a fire in the main deck cargo compartment. Both crewmembers died as a result of injuries sustained during the crash, and the aircraft was a total loss. The UAE led this investigation,[42] and issued a final report on July 24, 2013.[43] The report found that at least three shipments of lithium ion battery packs that meet Class 9 hazardous material designation were onboard. In addition, in July 2011, a Boeing 747-400F, operated by Asiana Cargo and transporting a large quantity of lithium batteries, crashed about 70 miles west of Jeju Island, Republic of Korea, after the flight crew declared an emergency due to a cargo fire and attempted to divert to Jeju International Airport. Again, both crewmembers died as result of injuries sustained during the crash, and the aircraft was a total loss.

The NTSB held a public forum in April 2013 on lithium ion batteries in transportation. We learned that lithium ion batteries are becoming more prevalent in the various transportation modes, national defense, and space exploration. Panelists stated that because of their high energy density and light weight, these batteries are natural choices for energy. These benefits, however, also are the source of safety risks. We also heard about manufacturing auditing, robust testing, and monitoring and protection mechanisms to prevent a catastrophic event.

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[41] 75 Fed. Reg. 1302 (January 11, 2010).

[42] Foreign investigative entities have authority equivalent to the NTSB under ICAO Annex 13. For this accident, in particular, the NTSB has been involved as the accredited representative as the State of Operator, Registration, and Manufacturer. The operator, manufacturers, and regulator (FAA) are technical advisors to the NTSB accredited representative. The NTSB plans to issue recommendations based on the findings of the UAE investigation.

[43] General Civil Aviation Authority of the United Arab Emirates. Uncontained Cargo Fire Leading to Loss of Control Inflight and Uncontrolled Descent into Terrain. (July 24, 2013). Available at http://www.gcaa.gov.ae/en/ePublication/admin/iradmin/Lists/Incidents%20Investigation%20Reports/Attachments/40/2010-2010%20-%20Final%20Report%20-%20Boeing%20747-44AF%20-%20N571UP%20-%20Report%2013%202010.pdf

When Congress passed H.R. 658, the FAA Reauthorization bill in 2012, it contained a provision that US hazardous materials regulations (HMR) on the air transportation of lithium metal cells or batteries or lithium ion cells or batteries could not exceed the International Civil Aviation Organization (ICAO) *Technical Instructions for the Safe Transport of Dangerous Goods by Air*. Consequently, in January 2013, PHMSA published an NPRM stating that it was considering harmonizing requirements in the HMR on the transportation of lithium batteries with changes adopted in the 2013–2014 ICAO Technical Instructions and requested additional comments on (1) the effect of those changes, (2) whether to require compliance with the ICAO Technical Instructions for all shipments by air, both domestic and international, and (3) the impacts if PHMSA failed to adopt specific provisions in the ICAO Technical Instructions into the HMR.[44] In the NTSB's comments on the NPRM, we noted the disparity between requirements in the HMR, which had weaker standards at the time, and the ICAO Technical Instructions. We explained that failure to require domestic shipments of lithium batteries to comply with regulations equivalent to the ICAO Technical Instructions would place the United States in an inexplicable position of having weaker safety standards at a time when it should be leading the way in response to serious safety concerns about transporting these materials. PHMSA's final rule harmonized the HMR with the ICAO Technical Instructions as well as with applicable provisions of the United Nations Model Regulations and the International Maritime Dangerous Goods (IMDG) Code.[45]

The NTSB notes the DOT has for some years worked to ensure that the US hazardous materials regulations are compatible with international standards and, accordingly, has been very active in the development of international standards for the transportation of hazardous materials. However, the DOT has never relinquished its rulemaking authority to an international body. The NTSB concurs with that position and firmly believes the DOT should implement more stringent standards in US regulations if deemed necessary.

Conclusion

Mr. Chairman, the NTSB has a long record of support for improved tank car design, PTC, inward- and outward-facing recorders in locomotive cabs, improved pipeline integrity management, and safe transportation of lithium batteries. As you know, our mission is to promote safety, and the implementation of our recommendations in these areas would help promote and improve safety.

Thank you for the opportunity to testify before you today. I look forward to responding to your questions.

[44] 78 Fed. Reg. 1119 (January 7, 2013).
[45] 79 Fed. Reg. 46012 (August 6, 2014).

QUESTIONS FOR THE RECORD
THE HONORABLE MICHAEL CAPUANO
SUBCOMMITTEE HEARING ON
"OVERSIGHT OF ONGOING RAIL, PIPELINES AND HAZMAT RULEMAKINGS"
APRIL 22, 2015

The Honorable Christopher Hart, Chairman, National Transportation Safety Board

- **With respect to PTC, you mention in your testimony that "there should be a transparent accounting for actions taken – and not taken – to meet the deadline so that regulators and policymakers can make informed decisions" on an extension. Please provide ideas Congress should consider on the transparent accounting that should be required of the railroads.**

  In the Goodwell, Oklahoma report, we recommended that there be more transparency and accountability in the implementation of positive train control and that this information be publicly available on the Department of Transportation's website.

  We made the following recommendation to all railroads subject to the PTC provisions of the Rail Safety Improvement Act of 2008:

  > Provide positive train control implementation update reports to the Federal Railroad Administration every 6 months until positive train control implementation is complete. The update reports should consist of two sections: components and training. The components section should include a description of the positive train control component to be implemented, the number of components, the number of components completed on the report date, the number of components that remain to be completed, the overall completion percentage, and the estimated completion date. Components are defined as locomotives, wayside units, switches, base station radios, wayside radios, locomotive radios, and any new and novel technologies that are part of a positive train control system. The training section should include the number of safety-related employees and equivalent railroad carrier contractors and subcontractors that need to be trained, by class and craft; minimum training standards for those employees and contractors, meaning the knowledge of and ability to comply with federal railroad safety laws and regulations and carrier rules and procedures to implement positive train control; the percentage of employees who have completed training; the percentage of employees who remain to be trained; and the estimated date that training will be completed. (R-13-27)

  The companion recommendation to the Federal Railroad Administration (FRA) is:

  > Publish the positive train control implementation update reports submitted by all railroads subject to the PTC provisions of the Rail Safety Improvement Act of 2008 and make the reports available on your website within 30 days of report receipt (R-13-23)

- **The NTSB has recommended that PHMSA require railroads to develop comprehensive response plans to effectively provide for the carriers' ability to respond to worst-case discharges resulting from accidents involving unit trains or blocks of tank cars**

transporting oil and petroleum products. However, NTSB's investigation of the Enbridge pipeline incident in Marshall, Michigan, found several deficiencies in PHMSA's processes for reviewing response plans currently submitted by pipeline companies. Mr. Hart, can you talk about what NTSB found in that investigation with respect to PHMSA's handling of Enbridge's response plans, and why response plans are important? Please provide NTSB's recommendations to PHMSA on this issue.

Our investigation found that PHMSA allows operators to interpret the Federal requirements. This means it is improbable that PHMSA would be able to adequately review response plans or enforce Federal requirements that pipeline operators identify and ensure that adequate response resources are available to respond to worst-case discharges. Furthermore, it has a very small staff assigned to review facility response plans. In contrast, regulatory requirements for oil spill response capability planning that are administered by the Coast Guard and EPA provide specific performance standards.

Comprehensive pipeline spill response plans are important because pipelines are hundreds of miles long, so response resources may be required at locations that are difficult to predict and can be hard to reach.

We are encouraged with the action PHMSA is taking to improve response plan oversight.

The two applicable recommendations are:

> Revise Title 49 Code of Federal Regulations Part 194 to harmonize onshore oil pipeline response planning requirements with those of the U.S. Coast Guard and the U.S. Environmental Protection Agency for facilities that handle and transport oil and petroleum products to ensure that pipeline operators have adequate resources available to respond to worst-case discharges. The current status is open-acceptable action. (P-12-9)
>
> Issue an advisory bulletin to notify pipeline operators (1) of the circumstances of the Marshall, Michigan, pipeline accident, and (2) of the need to identify deficiencies in facility response plans and to update these plans as necessary to conform with the non-mandatory guidance for determining and evaluating required response resources as provided in Appendix A of Title 49 Code of Federal Regulations Part 194, "Guidelines for the Preparation of Response Plans." The current status is closed-acceptable action. (P-12-10)

- **Following a 2005 incident involving two Canadian National freight trains which collided head on in Anding, Mississippi, the NTSB recommended that the FRA and PHMSA develop regulations to require that railroads immediately provide to emergency responders accurate, real-time information regarding the identify and location of ALL hazardous materials, including poisonous-by-inhalation hazardous materials, on a train. The recommendations are designated by the NTSB as "Open – Unacceptable Action" by FRA and PHMSA. Why is this information important, and why should it be application to all hazardous materials?**

Just recently, these recommendations were classified as "open—acceptable." We are encouraged by the steps that FRA and PHMSA have taken to implement these

recommendations. For responders facing a train accident potentially involving hazardous materials, information is vital. It dictates the tactics used the fight the fire or release, including potential evacuation zone surrounding the accident.

Also related to the issue of having information is a recommendation from our Paulsboro, NJ accident report. We discovered that the train crew did not have the more conservative emergency response guidelines that are available in the *Emergency Response Guidebook* (ERG). We issued a recommendation to PHMSA that they require train crews to carry emergency response guidelines that are at least as protective as those in the ERG (R-14-18).

- **The NTSB has issued numerous recommendations for improving emergency response capabilities for oil spills by rail and pipeline. Can you discuss those?**

After the Lac-Mégantic, Canada accident, the NTSB issued recommendations jointly with the Transportation Safety Board of Canada. One of these recommendations would ensure that railroads are capable of responding to a worst-case scenario oil spill. The Oil Pollution Act (OPA) of 1990, which was enacted in the aftermath of the *Exxon Valdez* oil spill, requires that marine operators can respond to worst-case oil spills. This requirement is also in place for pipeline operators. It does not require that operators have clean-up materials along every mile of a pipeline but that pipeline operators must ensure that sufficient resources are available in a timely manner once a release has occurred. Likewise, the NTSB believes that railroads should have meaningful response plans in place for petroleum crude oil shipments as large as those that are travelling today and that the FRA should be required to approve those plans. Currently, the FRA is required to review and approve plans only for tank cars carrying 42,000 gallons or more in a single container. Because there are virtually no tank cars that meet this threshold for review, railroads are not required to ensure the availability of sufficient and timely response resources, and the burden of mitigating the effects of a discharge falls on the local communities and the government.

The Lac-Mégantic accident resulted in more than 1.5 million gallons of oil being released. Accidents we have investigated or are investigating in the United States have resulted in releases of 30,000 gallons up to over 500,000 gallons of oil or ethanol. Voluntary guidelines are in place, but extending the OPA planning requirements that already exist in the marine and pipeline industries to the railroads that transport these commodities allows for the same protections for communities through which these large quantities of crude oil are carried.

In the NTSB's investigative report of a derailment in Paulsboro, New Jersey, in which a tank car of vinyl chloride was breached, we discussed the importance of community awareness and appropriate training to respond to emergencies involving the hazardous materials traveling on the railroads through communities. The Emergency Protection Community Right-to-Know Act (EPCRA) provides a framework that requires fixed-facility operators, like the refineries that operate in and around your districts, to inform local officials about the hazmat products being used at the facilities and work with the responders to develop response plans to address accidental releases. No similar requirement exists for railroads. (For example, the fixed-facility threshold planning quantity for chlorine is 100 pounds. A tank car of chlorine can carry 180,000 pounds, but no similar requirement exists.)

We believe EPCRA requirements can be a model for a similar requirement for railroads, and we recommended to the Department of Transportation (DOT) that it require railroads to provide state and local emergency response planning committees with data about the commodities travelling through their jurisdictions and that they be actively involved in emergency response planning. In addition, we believe the public should also be aware of these commodities and that the requirements for pipeline operators to inform the public about the existence of pipelines should extend to railroads transporting hazmat.

- **PHMSA still has not implemented the 2011 mandate to evaluate and require the installation of automatic or remote-controlled shut-off valves on new or replaced transmission pipelines. Mr. Hart, how long has NTSB been recommending this and why is it important?**

  The NTSB has called for the rapid shutdown of a failed pipeline since 1971. Shutting down the flow of the commodity as quickly as possible can decrease the amount of release and limit or contain the damage.

- **In 2005, the NTSB conducted a safety study which found that 72 percent of all pipeline ruptures are detected by the public, emergency responders, or local operating personnel, not the pipeline controllers themselves. PHMSA still has not implemented the 2011 mandate to require hazardous liquid pipeline operators to install leak detection technology. Mr. Hart, how long has NTSB been recommending this and why is it important?**

  The NTSB has recommended improved leak detection since at least 1991. It increases the likelihood of quick detection, which allows for faster isolation and shutdown of the pipeline, potentially saving lives and reducing environmental impact, and it reduces the spill response time.

- **PHMSA still has not implemented the mandates in the 2011 Act to evaluate whether integrity management requirements should be expanded beyond high consequence areas, and to issue a rulemaking if justified by the evaluation. Does NTSB have any recommendations on this issue?**

  We believe that the definition of high consequence areas (HCA) should be expanded. In our investigation of a natural gas pipeline rupture in Sissonville, WV, we recommended that critical infrastructure should be added to the list of criteria for an HCA designation.

- **PHMSA still has not implemented the mandates in the 2011 Act to require each operator of an interstate or intrastate natural gas transmission pipeline in a high consequence area or within close proximity of homes, buildings, or an area that is frequently occupied to (1) verify the physical and operational standards of each pipeline segment; (2) identify and submit documentation to the Secretary on the maximum allowable operating pressure (MAOP) of each pipeline segment; and, (3) report any exceedances of MAOP within five days of when the exceedance occurs. Mr. Hart, how long has NTSB recommended this and why is it important?**

The NTSB issued two urgent safety recommendations to Pacific Gas and Electric in response to the San Bruno, CA pipeline rupture addressing physical and operational standards verification and verification of pipeline segment MAOP. Both urgent recommendations are Closed-Acceptable action. In May 2012, PHMSA issued an advisory bulletin addressing records verification and in December 2012 addressing MAOP reporting requirements.

- **PHMSA still has not implemented the mandates in the 2011 Act requiring the Secretary to issue regulations for testing the material strength of previously untested gas transmission pipelines in HCAs. Mr. Hart, why is it important?**

  In our investigation of the San Bruno, California pipeline rupture, we found insufficient welds that were in place at the time the pipeline was installed. Pressure testing of the pipeline is designed to find critical seam defects by causing the pipe to fail at these critical defect locations.

- **PHMSA still has not implemented the mandates in the 2011 Act to eliminate the "grandfather clause" which exempted pre-1970 pipelines from hydrostatic testing requirements that applied to pipelines constructed after 1970. The San Bruno pipeline that ruptured was one of the "grandfathered" lines. NTSB found that had PG&E conducted a hydrostatic test on the line post-construction they would have known the pipe was poorly manufactured and corrected deficiencies before they began operations.**

  NTSB noted that more than half of the nation's onshore gas transmission pipelines (about 180,000 miles) were installed prior to the effective date of the 1970 requirement. Mr. Hart, how long has NTSB recommended this and why is it important?

  We first issued the recommendation to remove the "grandfather clause" in 1987. Pressure testing can identify anomalies in a pipeline with water, as opposed to the commodity flowing through the pipeline. Also, pressure testing yields more up-to-date data to safety establish the correct operating pressure for a pipeline.

- **PHMSA still has not implemented the 2011 Act requiring PHMSA to revise its regulations to establish specific time limits (not to exceed one hour) for telephonic reporting of accidents and incidents involving pipeline facilities to the Secretary and the National Response Center. Federal regulations currently require operators to report an incident "at the earliest practicable opportunity" which has often exceeded two hours. Following enactment PHMSA issued an advisory bulletin to operators "encouraging" them to comply with the new mandate. PHMSA still hasn't revised its regulations to reflect the new time limit. Mr. Hart, why is timely reporting of an incident important?**

  Each minute after an event occurs is critical time to determine and implement the response, including the evacuation zone and various local, state and federal resources required to respond effectively.

- **PHMSA still has not implemented the 2011 mandate to evaluate and require the installation of automatic or remote-controlled shut-off valves on new or replaced transmission pipelines. Mr. Hart, how long has NTSB been recommending this and why is it important?**

  The NTSB has called for the rapid shutdown of a failed pipeline since 1971. Shutting down the flow of the commodity as quickly as possible can decrease the amount of release and limit or contain the damage, thus saving lives and limiting environmental impact.

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Recommendation Subjects

Overall Status: All Open NTSB Report #: Addressee: PHMSA

Recommendation #	Overall Status	Date Closed	Subject
A-08-001	OAA		TO THE FEDERAL AVIATION ADMINISTRATION AND THE HAZARDOUS MATERIALS SAFETY ADMINISTRATION: In collaboration with air carriers, manufacturers of lithium batteries and electronic devices, air travel associations, and other appropriate government and private organizations, establish a process to ensure wider, highly visible, and continuous dissemination of guidance and information to the air-traveling public, including flight crews, about the safe carriage of secondary (rechargeable) lithium batteries or electronic devices containing these batteries on board passenger aircraft.
A-08-002	OAA		TO THE FEDERAL AVIATION ADMINISTRATION AND THE HAZARDOUS MATERIALS SAFETY ADMINISTRATION: In collaboration with air carriers, manufacturers of lithium batteries and electronic devices, air travel associations, and other appropriate government and private organizations, establish a process to periodically measure the effectiveness of your efforts to educate the air-traveling public, including flight crews, about the safe carriage of secondary (rechargeable) lithium batteries or electronic devices containing these batteries on board passenger aircraft.
H-04-023	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION (ORIGINALLY ISSUED TO RSPA): Require periodic nondestructive testing to be conducted on nurse tanks to identify material flaws that could develop and grow during a tank's service and result in a tank failure.
H-09-001	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Modify 49 Code of Federal Regulations 173.301 to clearly require (1) that cylinders be securely mounted on mobile acetylene trailers and other trailers with manifolded cylinders to reduce the likelihood of cylinders being ejected during an accident and (2) that the cylinder valves, piping, and fittings be protected from multidirectional impact forces that are likely to occur during highway accidents, including rollovers.
H-09-002	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require fail-safe equipment that ensures that operators of mobile acetylene trailers can perform unloading procedures only correctly and in sequence.
H-11-004	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Work with the Federal Motor Carrier Safety Administration, as appropriate, to develop and disseminate guidance to assist hazardous materials carriers in implementing comprehensive cargo tank motor vehicle rollover prevention programs, including the active participation of drivers, dispatchers, and management through training, loading practices, delivery schedules, and acquisition of equipment.

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Recommendation Subjects

Recommendation #	Overall Status	Date Closed	Subject
H-11-005	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Conduct a comprehensive analysis of all available accident data on U.S. Department of Transportation specification cargo tanks to identify cargo tank designs and the associated dynamic forces that pose a higher risk of failure and release of hazardous materials in accidents. Once such cargo tanks have been identified, study the dynamic forces acting on susceptible structures under varying accident conditions and develop performance standards to eliminate or mitigate these risks.
H-11-006	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Once the performance standards in Safety Recommendation H-11-5 have been developed, require that all newly manufactured cargo tanks comply with the performance standards.
H-12-003	OAAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require cargo tank motor vehicle carriers and transfer facilities to verify (1)that cargo transfer hose assemblies, whether carried on the vehicle or provided by the facility, are chemically compatible with the hazardous material to be transferred and (2) that drivers verify hoses are marked as compatible with the material to be transferred before either loading or unloading operations begin.
H-98-027	OUA		TO THE DEPARTMENT OF TRANSPORTATION (TRANSFERED TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION): Prohibit the carrying of hazardous materials in external piping of cargo tanks, such as loading lines, that may be vulnerable to failure in an accident.
P-01-002	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION (ORIGINALLY ISSUED TO RSPA): Require that excess flow valves be installed in all new and renewed gas service lines, regardless of a customer's classification, when the operating conditions are compatible with readily available valves.
P-04-001	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION (ORIGINALLY ISSUED TO RSPA): Remove the exemption in 49 Code of Federal Regulations 192.65 (b) that permits pipe to be placed in natural gas service after pressure testing when the pipe can not be verified to have been transported in accordance with the American Petroleum Institute's recommended practice RP 5L1.
P-09-002	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Based on the results of the study requested in Safety Recommendation P-09-1, implement the actions needed.
P-11-008	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines to provide system-specific information about their pipeline systems to the emergency response agencies of the communities and jurisdictions in which those pipelines are located. This information should include pipe diameter, operating pressure, product transported, and potential impact radius.
P-11-009	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines to ensure that their control room operators immediately and directly notify the 911 emergency call center(s) for the communities and jurisdictions in which those pipelines are located when a possible rupture of any pipeline is indicated.

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Recommendation Subjects

Recommendation #	Overall Status	Date Closed	Subject
P-11-010	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require that all operators of natural gas transmission and distribution pipelines equip their supervisory control and data acquisition systems with tools to assist in recognizing and pinpointing the location of leaks, including line breaks; such tools could include a real-time leak detection system and appropriately spaced flow and pressure transmitters along covered transmission lines.
P-11-011	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Amend Title 49 Code of Federal Regulations 192.935(c) to directly require that automatic shutoff valves or remote control valves in high consequence areas and in class 3 and 4 locations be installed and spaced at intervals that consider the factors listed in that regulation.
P-11-012	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Amend Title 49 Code of Federal Regulations 199.105 and 49 Code of Federal Regulations 199.225 to eliminate operator discretion with regard to testing of covered employees. The revised language should require drug and alcohol testing of each employee whose performance either contributed to the accident or cannot be completely discounted as a contributing factor to the accident.
P-11-014	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Amend Title 49 Code of Federal Regulations 192.619 to delete the grandfather clause and require that all gas transmission pipelines constructed before 1970 be subjected to a hydrostatic pressure test that incorporates a spike test.
P-11-015	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Amend Title 49 Code of Federal Regulations Part 192 of the Federal pipeline safety regulations so that manufacturing- and construction-related defects can only be considered stable if a gas pipeline has been subjected to a postconstruction hydrostatic pressure test of at least 1.25 times the maximum allowable operating pressure.
P-11-018	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise your integrity management inspection protocol to (1) incorporate a review of meaningful metrics; (2) require auditors to verify that the operator has a procedure in place for ensuring the completeness and accuracy of underlying information; (3) require auditors to review all integrity management performance measures reported to the Pipeline and Hazardous Materials Safety Administration and compare the leak, failure, and incident measures to the operator's risk model; and (4) require setting performance goals for pipeline operators at each audit and follow up on those goals at subsequent audits.
P-11-020	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Work with state public utility commissions to (1) implement oversight programs that employ meaningful metrics to assess the effectiveness of their oversight programs and make those metrics available in a centralized database, and (2) identify and then correct deficiencies in those programs.

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Recommendation Subjects

Recommendation #	Overall Status	Date Closed	Subject
P-12-003	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise Title 49 Code of Federal Regulations 195.452 to clearly state (1) when an engineering assessment of crack defects, including environmentally assisted cracks, must be performed; (2) the acceptable methods for performing these engineering assessments, including the assessment of cracks coinciding with corrosion with a safety factor that considers the uncertainties associated with sizing of crack defects; (3) criteria for determining when a probable crack defect in a pipeline segment must be excavated and time limits for completing those excavations; (4) pressure restriction limits for crack defects that are not excavated by the required date; and (5) acceptable methods for determining crack growth for any cracks allowed to remain in the pipe, including growth caused by fatigue, corrosion fatigue, or stress corrosion cracking as applicable.
P-12-004	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise Title 49 Code of Federal Regulations 195.452(h)(2), the "discovery of condition," to require, in cases where a determination about pipeline threats has not been obtained within 180 days following the date of inspection, that pipeline operators notify the Pipeline and Hazardous Materials Safety Administration and provide an expected date when adequate information will become available.
P-12-007	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Develop requirements for team training of control center staff involved in pipeline operations similar to those used in other transportation modes.
P-12-008	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Extend operator qualification requirements in Title 49 Code of Federal Regulations Part 195 Subpart G to all hazardous liquid and gas transmission control center staff involved in pipeline operational decisions.
P-12-009	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Amend Title 49 Code of Federal Regulations Part 194 to harmonize onshore oil pipeline response planning requirements with those of the U.S. Coast Guard and the U.S. Environmental Protection Agency for facilities that handle and transport oil and petroleum products to ensure that pipeline operators have adequate resources available to respond to worst-case discharges.
P-14-001	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise Title 49 Code of Federal Regulations Section 903, Subpart O, Gas Transmission Pipeline Integrity Management, to add principal arterial roadways including interstates, other freeways and expressways, and other principal arterial roadways as defined in the Federal Highway Administration's Highway Functional Classification Concepts, Criteria and Procedures to the list of "identified sites" that establish a high consequence area.
P-15-001	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Assess (1) the need for additional inspection protocol guidance for state inspectors, (2) the adequacy of your existing mentorship program for these inspectors, and (3) the availability of your subject matter experts for consultation with them, and implement the necessary improvements.
P-15-002	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Modify the overall state program evaluation, training, and qualification requirements for state inspectors to include federal-to-state coordination in integrity management inspections.

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Recommendation Subjects

Recommendation #	Overall Status	Date Closed	Subject
P-15-003	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Work with the National Association of Pipeline Safety Representatives to develop and implement a program to formalize, publicize, and facilitate increased state-to-state coordination in integrity management inspections.
P-15-004	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Increase the positional accuracy of pipeline centerlines and pipeline attribute details relevant to safety in the National Pipeline Mapping System.
P-15-005	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise the submission requirement to include high consequence area identification as an attribute data element to the National Pipeline Mapping System.
P-15-006	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Assess the limitations associated with the current process for identifying high consequence areas, and disseminate the results of your assessment to the pipeline industry, inspectors, and the public.
P-15-007	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Work with the Federal Geographic Data Committee to identify and publish standards and specifications for geospatial data commonly used by gas transmission pipeline operators, and disseminate the standards and specifications to these operators and inspectors.
P-15-008	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Work with the appropriate federal, state, and local agencies to develop a national repository of geospatial data resources for the process for high consequence area identification, and publicize the availability of the repository.
P-15-009	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Establish minimum criteria for eliminating threats, and provide guidance to gas transmission pipeline operators for documenting their rationale for all eliminated threats.
P-15-010	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Update guidance for gas transmission pipeline operators and inspectors on the evaluation of interactive threats. This guidance should list all threat interactions that must be evaluated and acceptable methods to be used.
P-15-011	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Develop and implement specific risk assessment training for inspectors in verifying the technical validity of risk assessments that operators use.
P-15-012	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Evaluate the safety benefits of the four risk assessment approaches currently allowed by the gas integrity management regulations; determine whether they produce a comparable safety benefit; and disseminate the results of your evaluation to the pipeline industry, inspectors, and the public.
P-15-013	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Update guidance for gas transmission pipeline operators and inspectors on critical components of risk assessment approaches. Include (1) methods for setting weighting factors, (2) factors that should be included in consequence of failure calculations, and (3) appropriate risk metrics and methods for aggregating risk along a pipeline.

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Recommendation Subjects

Recommendation #	Overall Status	Date Closed	Subject
P-15-014	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise 49 Code of Federal Regulations section 192.915 to require all personnel involved in integrity management programs to meet minimum professional qualification criteria.
P-15-015	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise Form F7100.1, Annual Report Form, to collect information about which methods of high consequence area identification and risk assessment approaches were used.
P-15-016	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise Form F7100.2, Incident Report Form, (1)to collect information about both the results of previous assessments and previously identified threats for each pipeline segment involved in an incident and (2) to allow for the inclusion of multiple root causes when multiple threats interacted.
P-15-017	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Develop a program to use the data collected in response to Safety Recommendations P-11-15and P-11-16 to evaluate the relationship between incident occurrences and (1) inappropriate elimination of threats, (2) interactive threats, and (3) risk assessment approaches used by the gas transmission pipeline operators. Disseminate the results of your evaluation to the pipeline industry, inspectors, and the public annually.
P-15-018	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require that all natural gas transmission pipelines be capable of being in-line inspected by either reconfiguring the pipeline to accommodate in line inspection tools or by the use of new technology that permits the inspection of previously uninspectable pipelines; priority should be given to the highest risk transmission pipelines that considers age, internal pressure, pipe diameter, and class location. (Safety Recommendation P-15-18 superseded Safety Recommendation P-11-17)
P-15-019	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise Form F7100.1, Annual Report Form, to collect information on the mileage of both HCA and non-HCA pipeline that can accommodate in-line inspection tools.
P-15-020	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Identify all operational complications that limit the use of in-line inspection tools in piggable pipelines, develop methods to eliminate the operational complications, and require operators to use these methods to increase the use of in-line inspection tools.
P-15-021	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Develop and implement a plan for eliminating the use of direct assessment as the sole integrity assessment method for gas transmission pipelines.
P-15-022	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Develop and implement a plan for all segments of the pipeline industry to improve data integration for integrity management through the use of geographic information systems.
R-07-004	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: With the assistance of the Federal Railroad Administration, require that railroads immediately provide to emergency responders accurate, real-time information regarding the identity and location of all hazardous materials on a train.

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Recommendation Subjects

Recommendation #	Overall Status	Date Closed	Subject
R-08-013	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: With the assistance of the Federal Railroad Administration, evaluate the risks posed to train crews by unit trains transporting hazardous materials, determine the optimum separation requirements between occupied locomotives and hazardous materials cars, and revise 49 Code of Federal Regulations 174.85 accordingly.
R-12-005	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require that all newly manufactured and existing general service tank cars authorized for transportation of denatured fuel ethanol and crude oil in Packing Groups I and II have enhanced tank head and shell puncture resistance systems and top fittings protection that exceeds existing design requirements for DOT-111 tank cars.
R-12-006	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require that all bottom outlet valves used on newly manufactured and existing non-pressure tank cars are designed to remain closed during accidents in which the valve and operating handle are subjected to impact forces.
R-12-007	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require that all newly manufactured and existing tank cars authorized for transportation of hazardous materials have center sill or draft sill attachment designs that conform to the revised Association of American Railroads' design requirements adopted as a result of Safety Recommendation R-12-9.
R-14-004	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Work with the Federal Railroad Administration to expand hazardous materials route planning and selection requirements for railroads under Title 49 Code of Federal Regulations 172.820 to include key trains transporting flammable liquids as defined by the Association of American Railroads Circular No. OT-55-N and, where technically feasible, require rerouting to avoid transportation of such hazardous materials through populated and other sensitive areas.
R-14-005	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Revise the spill response planning thresholds contained in Title 49 Code of Federal Regulations Part 130 to require comprehensive response plans to effectively provide for the carriers' ability to respond to worst-case discharges resulting from accidents involving unit trains or blocks of tank cars transporting oil and petroleum products.
R-14-006	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require shippers to sufficiently test and document the physical and chemical characteristics of hazardous materials to ensure the proper classification, packaging, and record-keeping of products offered in transportation.
R-14-018	OUA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Take action to ensure that emergency response information carried by train crews is consistent with and is at least as protective as existing emergency response guidance provided in the Emergency Response Guidebook.
R-14-019	OUA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require railroads transporting hazardous materials to develop, implement, and periodically evaluate a public education program similar to Title49Code of Federal RegulationsParts192.616 and195.440 for the communities along railroad hazardous materials routes.

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Recommendation Subjects

Recommendation #	Overall Status	Date Closed	Subject
R-14-020	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Collaborate with the Federal Railroad Administration and the American Short Line and Regional Railroad Association to develop a risk assessment tool that addresses the known limitations and shortcomings of the Rail Corridor Risk Management System software tool.
R-14-021	OAA		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Collaborate with the Federal Railroad Administration and the American Short Line and Regional Railroad Association to conduct audits of short line and regional railroads to ensure that proper route risk assessments that identify safety and security vulnerabilities are being performed and are incorporated into a safety management system program.
R-15-014	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require that all new and existing tank cars used to transport all Class 3 flammable liquids be equipped with thermal protection systems that meet or exceed the thermal performance standards outlined in Title 49 Code of Federal Regulations 179.18(a) and are appropriately qualified for the tank car configuration and the commodity transported. (Urgent)
R-15-015	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: In conjunction with thermal protection systems called for in safety recommendation R-15-14, require that all new and existing tank cars used to transport all Class 3 flammable liquids be equipped with appropriately sized pressure relief devices that allow the release of pressure under fire conditions to ensure thermal performance that meets or exceeds the requirements of Title 49 Code of Federal Regulations 179.18(a), and that minimizes the likelihood of energetic thermal ruptures. (Urgent)
R-15-016	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Require an aggressive, intermediate progress milestone schedule, such as a 20percent yearly completion metric over a 5-year implementation period, for the replacement or retrofitting of legacy DOT-111 and CPC-1232 tank cars to appropriate tank car performance standards, that includes equipping these tank cars with jackets, thermal protection, and appropriately sized pressure relief devices. (Urgent)
R-15-017	OAR		TO THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION: Establish a publicly available reporting mechanism that reports at least annually, progress on retrofitting and replacing tank cars subject to thermal protection system performance standards as recommended in safety recommendation R-15-16. (Urgent)

Total Number of Recommendations for Recommendation Subjects Report: 66

A Review of the Pipeline and Hazardous Materials Safety Administration's Draft Regulatory Impact Analysis

Docket No. PHMSA-2012-0082 (HM-251)

PREPARED FOR

The Railway Supply Institute, Committee on Tank Cars

PREPARED BY

Kevin Neels
Mark Berkman

November 14, 2014

THE Brattle GROUP

IV. PHMSA UNDERSTATES THE COSTS ASSOCIATED WITH ITS PROPOSED REGULATIONS

A. PHMSA UNDERESTIMATES THE SIZES OF THE AFFECTED FLEETS

PHMSA's regulatory impact analysis significantly understates the number of tank cars that might require modification under the proposed regulations. While we appreciate the difficulty of developing accurate measurements of the size of a rapidly changing tank car fleet, we also believe that it is critically important that in crafting regulations PHMSA must understand how many tank cars will be affected by those regulations.

As stated in its comments on the NPRM, the RSI-CTC explains that under the proposed definition of a "HHFT" it would be impossible to limit the application of the rule only to tank cars carrying crude oil and ethanol.[30] Furthermore, PHMSA proposes treating PG III products with a flash point above 100 degrees F as combustible liquids, which would exempt them from any modification. However, we do not have data on the portion of the existing tank car fleet that would be covered by that exemption and therefore cannot determine which tank cars would be potentially outside the scope of the Proposed Regulations. Consistent with these conclusions, we assume that the entire existing tank car fleet, including legacy DOT-111s and CPC-1232s, will be modified to meet the proposed deadlines and that all tank cars transporting PG III commodities are treated as flammable liquids.

In the preamble to its proposed regulations, PHMSA notes the rapid growth that has taken place in shipments of crude oil by rail. Between 2009 and 2013 the number of carloads of crude oil moving by rail grew from 10,800 to over 400,000.[31] This growth in traffic has been accompanied by a comparable expansion of the crude oil tank car fleet. To accommodate actual and planned growth, crude oil producers, marketers and refiners have ordered, taken delivery of, and placed into service large numbers of new crude oil tank cars. These realities mean that the size of the crude oil fleet is a moving target. Snapshot estimates of its size and sub-fleet makeup can quickly become out of date as new tank cars are placed into service and other tank cars are removed from service or reassigned to a different commodity.

The rapid growth of the existing tank car fleet, made up of legacy DOT-111s and a growing number of CPC-1232s is illustrated by Table 2, which contrasts AAR measurements of the sizes

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[30] RSI-CTC NPRM Comments at 7-9 (explaining that the fundamental flaw in the HHFT approach is the notion that a shipper has advance notice of or control over the type of train in which its tank car moves or that the type of train in which it moves remains static from origin to destination).

[31] NPRM, page 9.

of the crude oil tank car fleets as of the end of 2013 and the end of April of 2014.[32] To qualify for inclusion in the end-of-calendar-year 2013 totals, a tank car had to have shipped at least one carload of the commodity in question over the period from January 1, 2012 through December 31, 2013. To qualify for inclusion in April 30, 2014 totals, a tank car had to have shipped at least one carload of the commodity in question over the period from January 1, 2013 through April 30, 2014. Over even this brief period the crude oil fleet expanded substantially.

Table 2: Number of Tank Cars in Crude Oil Service as of 12/31/13 and 04/30/14

Sub-fleet	Fleet as of 12/31/13	Fleet as of 4/30/14
Non-jacketed legacy DOT-111s	22,957	23,090
Jacketed legacy DOT-111s	6,407	7,016
Non-jacketed CPC-1232s	9,402	11,364
Jacketed CPC-1232s	4,966	7,712

The task of tracking changes in the crude oil and ethanol fleets is further complicated by the fact that tank cars are sometimes reassigned from one service to another. The need for a tank car to be thoroughly cleaned before it is ready to carry a new commodity reduces the frequency with which such changes occur. But they do occur. Between December 31, 2013 and April 30, 2014 the number of jacketed DOT-111 tank cars in crude oil service grew from 6,407 to 7,016. However, the only new tank cars being built for crude oil service at this time were CPC-1232 tank cars. The increase in the size of the jacketed and non-jacketed DOT-111 crude oil fleet therefore is the result of tank car reassignment from other commodity services.

The new tank car order backlog provides another indication of the rate at which the tank car fleets covered by the proposed regulations are expanding.

Table 3 shows the number of new tank cars scheduled for delivery in 2014 and 2015. Based on orders from their customers, the RSI-CTC members anticipate that the vast majority of these cars are destined for crude oil service. In calendar year 2104 the CPC-1232 tank car fleet is expected

[32] PHMSA appears to have based its estimates of the size of the crude oil and ethanol fleets (presented in DRIA on page 78) on the end of 2013 car counts.

to expand at a rate of nearly 1,800 tank cars per month. These deliveries will continue at a reduced but still substantial pace through 2015.

Table 3: Delivery Schedule for Current New Tank Car Orders

Sub-Fleet	2014 Deliveries	2015 Deliveries
Non-jacketed CPC-1232s	7,481	1,180
Jacketed CPC-1232s	13,647	9,730

The figures presented in Table 2 and

Table 3 do not tell the complete story. A long supply chain connects the facilities where tank cars are manufactured with the unit trains in which crude oil and ethanol move. There are time lags between when a crude oil shipper places an order for a new tank car and when a tank car is manufactured, between when a tank car is manufactured and when it is delivered, between when the tank car is delivered and when it is placed into service, and between when the tank car is placed in service and when it completes a shipment, and thus becomes eligible for inclusion in AAR tank car counts. Given the rapid rate at which the crude oil fleet has been expanding, at any given point in time there can be significant numbers of uncounted tank cars at these various points in this supply chain.

The best estimate by the RSI-CTC members of what the flammable liquids tank car fleet will look like in 2015 is shown in Table 4. This estimate is based upon the most recent tank car counts prepared by AAR, but have been updated to account for projected deliveries of back ordered tank cars and tank cars "in transit" as described above but not yet included in the AAR counts because they have not completed their first shipment.[33]

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[33] As noted above, to qualify for inclusion in April 30, 2014 totals a tank car had to have shipped at least one carload of the commodity in question over the period from January 1, 2013 through April 30, 2014. Because it is possible for an individual tank car to have carried more than one commodity over this period, it is also possible for a tank car to appear in more than one fleet. Therefore these numbers are not additive.

Table 4: Projected Flammable Liquids Tank Car Fleet as of the End of 2015

Sub-fleet	Crude Oil	Ethanol*	Other Flammable Liquids*
Non-jacketed legacy DOT-111s	23,090	27,037	24,790
Jacketed legacy DOT-111s	7,016	88	9,413
Non-jacketed CPC-1232s	21,993	751	2,944
Jacketed CPC-1232s	35,408	23	1,975
Total	**87,597**	**27,899**	**39,122**

* Note: Ethanol and Other Flammable Liquids car counts are based on AAR counts of cars that shipped at least one carload of the commodity in question over the period from January 1, 2013 through April 30, 2014. If an individual car switched services during this period, that car will be counted as part of more than one fleet.

PHMSA's fleet size estimates are derived from a presentation given by the RSI-CTC to the NTSB early in 2014.[34] That presentation included some figures showing the sizes of the various crude oil and ethanol sub-fleets, and counts of number of tank cars on order. The fleet size figures in the presentation to NTSB were based on AAR end of year 2013 tank car counts.[35] In using these figures to derive 2014 and 2015 fleet size estimates PHMSA makes a number of assumptions that are not correct. Specifically, PHMSA assumes that all non-jacketed CPC-1232 tank cars on order will be delivered in 2014, and that an additional 5,000 jacketed CPC-1232 tank cars will be delivered this same year.[36] Based upon the delivery schedules set forth above in

Table 3, both assumptions are incorrect.

Further, PHMSA incorrectly assumes that beginning in 2015, only enhanced jacketed CPC-1232 tank cars will be delivered into service.[37] While industry has committed to building only

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[34] RSI-CTC presentation to NTSB rail safety forum April 22, 2014.

[35] The figures in this presentation appear, when rounded to the nearest 100, to match counts that appear in end of year 2013 AAR tabulations.

[36] DRIA, page 77.

[37] DRIA at 32.

enhanced jacketed CPC-1232s to fill new orders for tank cars in crude oil service going forward, these tank cars may still need minor valve modifications (i.e. addition of the reconfigured BOV and appropriately sized PRV) if they are built before a final rule is in place. In addition, as

Table 3 illustrates, there are 1,180 non-jacketed CPC-1232 tank cars on order in the backlog for delivery in 2015. These contracts would need to be renegotiated between the manufacturers and their customers before these orders could be changed to a jacketed car order, delaying these tank cars' entry into service.

Table 5 compares PHMSA's projection of the size and composition of the crude oil and ethanol fleets as of the end of 2015 with that of the RSI-CTC as set forth above in Table 4. These projections differ at the sub-fleet level. The most significant difference involves jacketed CPC-1232 tank cars, where PHMSA appears to understate the size of the fleet by more than 5,000 tank cars.

Table 5: Comparison of PHMSA and RSI-CTC Estimates of End of 2015 Crude Oil and Ethanol Fleets

Sub-Fleet	PHMSA Projection	RSI-CTC Projection	Difference
Non-jacketed legacy DOT-111s	51,592	50,172	1,420
Jacketed legacy DOT-111s	5,600	7,104	(1,504)
Non-jacketed CPC-1232s	22,380	22,744	(364)
Jacketed CPC-1232s	30,150	35,431	(5,281)
Total	109,722	115,451	(5,729)

Sources: DRIA, Table TC5 and C-3.

PHMSA's fleet size estimates and assumptions significantly understate the challenges of modifying the existing fleet of jacketed CPC-1232 tank cars to bring it into compliance with the proposed regulations. PHMSA starts with a 2013 end-of-year estimate of 4,850 tank cars, and then assumes that 5,000 additional tank cars will be added to this fleet in 2014, resulting in a 2014 end-of-year fleet of 9,850 tank cars. In contrast, if one combines the 4,966 tank cars shown in Table 2 above for the 2013 end-of-year jacketed CPC-1232 fleet with the expected 2014 deliveries of 13,647 tank cars, shown above in

Table 3, one arrives at a 2014 end-of-year fleet of 18,613 cars.[38]

B. PHMSA Makes Unsupportable Assumptions Regarding the Disposition of the Affected Fleets

The RSI-CTC does not believe that the assumptions set forth in the DRIA regarding transfers of tank cars out of crude oil or ethanol services in response to the proposed regulations are realistic.

PHMSA assumes that the sizes of the crude oil and ethanol fleets that will require modification will be substantially reduced by the transfer of thousands of cars into service for the transportation of oil sands crude from Western Canada. This assumption is unrealistic for a number of reasons. First and foremost, many of the cars that PHMSA assumes will be transferred into oil sands service are unmodified legacy DOT-111 tank cars. It is far from clear that Canadian officials would permit such a transfer. Regulatory proposals currently being considered by Transport Canada would require that these tank cars undergo extensive modifications before they would be permitted to carry crude oil within Canada.[39] Moreover, even if Canadian authorities were willing to permit unmodified legacy DOT-111 tank cars to carry oil sands crude, many of these tank cars would still require modifications to carry this commodity. Oil sands crude is heavy and viscous, and would have to be heated to permit tank car unloading. Many of the tank cars that PHMSA assumes would be transferred to oil sands service are not currently equipped with heating coils, and so would have to be modified before the transfer could take

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[38] It appears that PHMSA relied on an RSI-CTC presentation delivered to OMB on June 16, 2014 as the source for its figure of 4,850 cars for the 2013 end-of-year jacketed CPC-1232 fleet. The car count shown in Table 2 differs from this figure due to rounding and due to the inclusion of 123 AAR 211 tank cars, which would require similar modifications under the proposed regulations. We have not been able to identify a source for PHMSA's assumption that only 5,000 additional tank cars would be added to the fleet.

[39] PHMSA argues that the physical characteristics of oil sands crude would lower risks and potential damages to the point where these crudes could be carried safely in unmodified legacy DOT-111 cars. However, we understand that Transport Canada's position is diluents are added to oil sands for transportation, resulting in characterization of the resulting commodity as a PG I or PG II commodity, and thus requiring transportation in a modified tank car.

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