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OVERSIGHT OF THE IMPLEMENTATION OF THE PRESIDENT'S EXECUTIVE ORDER ON IMPROVING CHEMICAL FACILITY SAFETY AND SECURITY

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS & HEALTH, EDUCATION, LABOR AND PENSIONS UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

SECOND SESSION

DECEMBER 11, 2014

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ONE HUNDRED THIRTEENTH CONGRESS
SECOND SESSION

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OVERSIGHT OF THE IMPLEMENTATION OF THE PRESIDENT'S EXECUTIVE ORDER ON IMPROVING CHEMICAL FACILITY SAFETY AND SECURITY

THURSDAY, DECEMBER 11, 2014

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, AND
COMMITTEE ON HEALTH, EDUCATION, LABOR AND PENSIONS
Washington, DC.

The committees met, pursuant to notice, at 9:31 a.m. in room 406, Dirksen Senate Building, Hon. Barbara Boxer and Hon. Robert P. Casey (co-chairs of the committees) presiding.

Present: Senators Boxer, Markey, Vitter, Barrasso, Crapo, Boozman, Franken, Bennet and Murphy.

OPENING STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator BOXER. Welcome to the Environment and Public Works Committee.

As usual, we are on a horrible schedule. This is such an important hearing and I am so pleased that you are here.

The Environment and Public Works Committee is joining with the Committee on Health, Education, Labor and Pensions. Senator Casey is coming shortly at about 10 a.m. to continue the hearing.

My situation is that right down the hall at 10 a.m., my Foreign Relations Committee is holding a markup on a bill to confront ISIS, whatever you call it. We have to confront them so I will have to leave at 10 a.m.

I will have a half hour with you and then Senator Casey will have his time with you.

Why are we here? In April 2013, a massive explosion at a fertilizer distribution plant in West, Texas killed 15 people, injured hundreds more and damaged or destroyed homes, businesses and three unoccupied schools.

Chemical facilities can be a threat to communities, including schools, across our Nation. A recent report by the Center for Effective Governance found that one out of three school children in America today attend a school within the vulnerability zone of a hazardous chemical facility.

I want to repeat that. One out of three school children in America today attend a school within the vulnerability zone of a hazardous chemical facility. As many as 10 million children go to school under the shadow of two hazardous zones.

If we believe what we say about the safety of our kids, keep that in mind. Ten million children go to school under the shadow of two hazardous zones and one out of three kids attends schools within the vulnerability zone of a hazardous chemical facility.

After the disaster in West, Texas, I spoke with President Obama about the need to act. On August 13, he issued Executive Order 13650, Improving Chemical Facility Safety and Security.

This Executive Order established a working group to conduct a comprehensive review of our chemical safety and security programs and develop recommendations for improving these programs.

There is a lot of talk about President Obama issuing too many Executive Orders. He has issued the least of any modern President.

In the 602 days since the West, Texas tragedy, there have been 355 chemical accidents, resulting in 79 deaths and 1,500 hospitalizations. That is according to Chemical Safety Board data. You can see on the chart where these occurred.

In my home State of California, we have had 23 chemical incidents and 96 people have been hospitalized. I am very concerned that despite the clear risks posed by our Nation's chemical facilities that very little progress has been made.

The Executive Order directed 15 actions be taken, including proposing changes to safety measures for ammonium nitrate, proposing changes to the list of chemical hazards under EPA's program to reduce the risk of chemical accidents and providing more information to our brave first responders and accident investigators.

Of the 15 actions directed by the Executive Order, only four have been completed. Six actions will not be complete until 2015 or later and five have no time line at all. No agency has proposed changes to its chemical safety program and not a single facility faces new Federal requirements to adopt safety precautions to reduce chemical hazard.

You can see the list of what the orders are and out of all of them, only three have been completed. This seems to be going on, I say to my colleagues, over and over.

One chemical that I have expressed concern about over and over is ammonium nitrate which was the cause of the West, Texas accident and was a key ingredient used in the Oklahoma City bombing and the 1993 World Trade Center bombing.

In response to a GAO request submitted by Senators Casey, Murray, Representatives Miller and Courtney, and myself, GAO said that Federal regulation of ammonium nitrate contains gaps that may make certain facilities unsafe.

The Chemical Safety Board reached similar conclusions and said EPA should address ammonium nitrate under its chemical safety standards. According to the Chemical Safety Board, the West, Texas accident could have been prevented had all those measures been in place.

Although an update to a 1997 Safety Advisory on ammonium nitrate was issued in 2013, more action needs to be taken.

Although the working group established in the Executive Order has convened months of meetings, its June report merely recommended more meetings and more information gathering. The time for meetings and deliberations about chemical safety is over

and we need measurable, meaningful action to improve protection for workers, first responders and local residents.

I hope to hear from our witnesses a renewed commitment to quickly finalize and implement key safety improvements so that we can avoid another tragedy like the one in west Texas.

With that, I call on Senator Vitter.

OPENING STATEMENT OF HON. DAVID VITTER, U.S. SENATOR FROM THE STATE OF LOUISIANA

Senator VITTER. Thank you, Madam Chair.

I want to thank you and Chairman Harkin for convening this hearing today.

The chemical industry is incredibly important to not just my home State of Louisiana but to our Nation as a whole.

Before I continue on with this statement, I want to note that today Senator Inhofe and I sent a letter to our EPA witness on this very subject. I would like to enter that into the record.

Senator BOXER. Without objection, so ordered.

[The referenced information follows:]

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United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
WASHINGTON, DC 20510-6175

December 11, 2014

Mathy Stanislaus
Assistant Administrator
Office of Solid Waste and Emergency Response
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Dear Mr. Stanislaus:

We write to you in regards to the Environmental Protection Agency's (EPA) July 31, 2014, Request for Information (RFI) on potential revisions to the Risk Management Program (RMP) in response to Executive Order 13650. Among other things, we are concerned with the breadth of the request and the inadequate 90-day timeframe for industry and stakeholder input, which ended on October 29, 2014. This insufficient timeline is prohibitive of the thoughtful and detailed responses EPA claims to seek to the 380 questions spanning 19 topics and containing more than 100 options. Given that these answers may be used to construct a substantial overhaul of significant regulations, it is unfortunate the Agency denied an extension request seeking a more appropriate period of time in which to respond.

Additionally, the agency indicated it will complete the rulemaking process within an unrealistic and self-imposed deadline of 2016. The reform of the RMP is a significant undertaking, examining regulatory and process safety elements and the public and environmental health and safety risks along with any costs and burdens they may entail. Considering the breadth of the information requested, we request EPA extend or remove this unnecessary, self-imposed deadline and take the appropriate time to carefully study and fully understand any potential impacts before issuing the final rule.

The Occupational Safety & Health Administration (OSHA) has also published an RFI to conduct a review of its Process Safety Management (PSM) standard as directed by the Executive Order. In many ways, the OSHA process stands in stark contrast to the hurried and unworkable path EPA selected. For example, their 111-day comment period for less than a third the number of EPA's questions seems like a more reasonable timeframe to receive critical input.

WASHINGTON, DC 20510-6175

Enforcement Fairness Act to fully comprehend the rule's potential impact on small business, a step EPA appears again unwilling to do.

Our inquiry also seeks clarification regarding the harmonization of the regulatory reforms within EPA and OSHA. The Executive Order specifically directs the agencies to better coordinate and share information on three fronts: regulatory; locally; and cross-agency reporting. The EPA has committed to publishing a final rule within an arbitrary and rush timeframe while OSHA seems to be taking a much more deliberative path. Given this severely disjointed process to review the respective risk management programs, both of which include the management and storage of hazardous substances, EPA's hurried dash greatly increases the likelihood of final regulations that are not harmonized as the EO requires. Further, EPA's timeframe could lead to the duplication of both existing and future proposed federal regulations which would do nothing to protect public safety and health while imposing unnecessary burdens and complications on businesses. It is for these reasons we strongly urge you to consider coordinating your review processes with OSHA in regards to timeframe and substance so the resulting final rules are consistent and complimentary. We also request EPA clarify that any of the Agency's rulemakings stay wholly within EPA's authorities and any joint EPA/OSHA issues are resolved outside of the two year timeline with greater consultation and a more deliberative process.

We ask you to seek industry advice through a Clean Air Act Advisory Committee panel to consider the potential impact on small business as you work to reform the RMP. In addition to the aforementioned need for a SBREFA panel, we would also recommend you consider convening a committee under the Federal Advisory Committee Act (FACA) allowing a panel of experts to review the revisions or, at a minimum, receive input from the existing advisory committees that have jurisdiction.

The Executive Order obligation to coordinate with state and local authorities is not to be ignored. The majority of accidents result from the inadequacy of compliance with current regulations. Thus, improving training, planning, and coordination tools to protect future incidents rather than new and duplicative regulations would better serve the regulated community as well as the surrounding communities. Rather than piling on new layers of needless federal red tape, we urge you to work with the Local Emergency Planning Committees (LPEC) in coordinating uniform compliance with existing statutes to prevent future accidents.

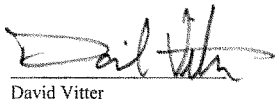
While EPA is undergoing this review, we strongly encourage you to examine your privacy policies and procedures. It has come to our attention that confidential off-site consequence analysis (OCA) information accessed in reading rooms is being manually copied verbatim and disseminated publicly by interested third parties. The EPA's May 2013 Security Notice remains unequivocally clear that it is in violation of federal law to distribute sections publicly. As early as 2000, the Department of Justice determined that OCA information was too

sensitive to be made public and issued a joint rule with the EPA regulating OCA access. The spirit of the reading rooms is to give individuals access to information allowing them to determine if they are at risk to an accidental release while acknowledging the sensitivity of the information and protecting its dissemination. While reading rooms serve an important public service, the intent of the rule is to provide access to information in accordance with the Freedom of Information Act. Instead, interested parties are spending significant time manually copying and disseminating confidential OCA information publically, which has in many ways compromised EPA's entire system of protecting this information, rendering it useless.

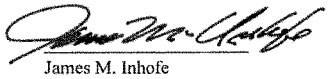
The Emergency Planning and Community Right-to-Know Act (EPCRA) provides a pertinent example of a federal statute that authorizes the protection of specific chemical facility information collected under that law. We encourage you to consider including similar provisions for the protection of sensitive information collected in the RMP. Finally, the review of the RMP also provides the EPA the opportunity to revisit its reading room policies and further strengthen compliance with regulatory and statutory restrictions on access to and dissemination of confidential OCA information.

We thank you for your attention to this important matter and respectfully request a response to our requests by January 1, 2015.

Sincerely,



David Vitter
Ranking Member
Committee on Environment and Public Works



James M. Inhofe
Ranking Member
Subcommittee on Oversight

Senator VITTER. When tragic accidents like the explosions in Geismar and Donaldsonville, Louisiana take place, it is critically important that they are thoroughly and expeditiously investigated.

Genuine effort must be put forth to understand their causes and we must strive to prevent similar accidents in the future.

Immediately following the explosion in Geismar, I requested that the Chemical Safety Board dispatch a team to Louisiana which they did. I appreciate their work and the updates on their work.

It is secret that chemical manufacturers spend billions of dollars annually in safety, health, environmental and security programs through initiatives like American Chemistry Council's Responsible Care.

Others in the regulated community have initiatives like the fertilizer industry which just this week launched such an initiative.

Despite all of this work, nothing comes without risk and there have been tragic, tragic accidents. Whenever they occur, it reminds us that we must all collaborate and we must all do better.

Today, we are here today to discuss President Obama's Executive Order 13650, Improving Chemical Safety and Security. Unfortunately, I believe that many of the actions being contemplated as part of this order may actually result in outcomes contrary to our collective goals. More specifically, they may result in less compliance with the law and less safety at sites.

To quote a previous committee witness who testified on this very issue, Rick Webber from the Ascension Parish Office of Homeland Security, "I cannot emphasize enough that all disasters are initially local."

In Louisiana, we are fortunate to have robust local emergency planning committees which Mr. Webber called "the most critical function that a community can perform to prevent, mitigate and respond to and recover from an industrial accident."

I believe that before we create any new complicated Federal mandates, which in many cases create problems and don't just fix problems, we need to better understand what problems we are trying to solve. We need to make sure we are giving folks within local communities the tools they need to ensure safety.

Given that a great deal of our committee discussions have centered around ammonium nitrate, as the Chair's comments touched on, I want to reference a May report from the nonpartisan Government Accountability Office on Chemical Safety which helps make my broader point.

It makes clear that unless OSHA takes additional action to "promote awareness of how to comply with its regulations, fertilizer facilities may not know whether their practices are in compliance with OSHA's existing ammonia nitrate storage regulations."

Another issue I hope we focus on today is the stark contrast in the way the two agencies testifying before us are carrying out their respective rulemakings. The whole point of this joint hearing is to try to get everyone on the same page.

I am afraid the two agencies before us today illustrate that we are not near there yet. In particular, I have concerns about EPA's path forward does not appear to be willing or interested in any small business review, seeking advice to a Clean Air Act Advisory

Committee panel or convening a committee of experts under the Federal Advisory Committee Act, all of which is in Federal law.

These differences are particularly troubling when you consider the agencies and their rules are directed by the Executive Order to be coordinated and harmonized and they are clearly not.

Ensuring the citizens, workers and communities across Louisiana and the Nation are protected from industrial accidents of all kinds should always be a top priority. It certainly is a top priority of mine. It should always be based on considered information from what we have learned.

I hope the hearing today helps us to take a positive step in that right direction.

Again, I thank the two chairmen for holding this important hearing.

Senator BOXER. Thank you very much, Senator Vitter.

We turn to Senator Markey and then if no Republican is here, we will turn to Senator Franken.

OPENING STATEMENT OF HON. EDWARD MARKEY, U.S. SENATOR FROM THE STATE OF MASSACHUSETTS

Senator MARKEY. Thank you, Madam Chairman. Thank you for calling today's important hearing on improving chemical facility safety and security.

The chemical sector is a testament to American ingenuity. It forms an essential building block of our economy, helps to keep our food and water safe and is integral to almost ever consumer product we use in our daily lives.

The same chemicals that save and improve the quality of our lives can also take lives away. Whether we are talking about accidents or attacks, the map Chairman Boxer held up clearly shows this to be a danger deserving urgent and immediate attention.

An analysis I am releasing today shows that according to EPA data, there are thousands of facilities in this Country whose contends endanger the lives of millions of Americans. More than a year and a half ago, in West, Texas, an accidental explosion at an ammonium nitrate fertilizer facility killed 15 people and leveled many buildings, including three schools.

Ammonium nitrate was also used in the 1993 World Trade Center bombing and the 1995 Oklahoma City bombing.

Just this past Sunday, several thousand people were evacuated from a hotel in Illinois when what was described as an intention chlorine gas incident sent 19 people to the hospital. There have also been many reports of chlorine gas allegedly used by ISIL and others to kill and injure people in Syria and Iraq.

Despite the urgent need to act, I do not see any urgency in the Administration's plans to increase safety and security of chemical facilities. The Department of Homeland Security has warned of insider sabotage attempts at water facilities and said that there is a critical security gap at waste water and drinking water facilities that use dangerous chemicals.

Nowhere in the response to the President's Executive Order is there a plan for EPA to require security measures at the thousands of water facilities that use the same chlorine cylinders to purify drinking water as are being used as weapons by ISIL.

Five years ago, EPA supported legislation I authored that passed the House of Representatives that would have ensured that facilities containing toxic chemicals switch to safer processes or substances when it was technologically and economically feasible to do so.

Nowhere in the response to the President's Executive Order is there a requirement for facilities to switch to less dangerous chemicals, even though the cost of making such a switch at D.C.'s Blue Plains Water Plant added less than $1 to people's monthly bills.

Both the Chemical Safety Board and the GAO have said that safety regulations for ammonium nitrate must be upgraded, but nowhere in the response to the President's Executive Order is there a directive to require more safety measures for this chemical that has already been the cause of so many deliberate and accidental deaths in this Country.

We would do well to recognize that preventing every accident, attack or natural disaster is impossible, but what can be we do to prevent the worse consequences of these events, what can we do to recognize that catastrophic accidents and attacks using chemicals have already happened?

What we can do is to heed the wake-up calls that point out the cost of our failure to reduce the frequency and consequences of chemical accidents.

I am disappointed in the Administration's response to the President's Executive Order. I urge you to redouble your efforts to implement real change, not just more information gathering that properly responds to the threat of which so many have warned.

Senator BOXER. Thank you, Senator.

Senator BARRASSO.

OPENING STATEMENT OF HON. JOHN BARRASSO, U.S. SENATOR FROM THE STATE OF WYOMING

Senator BARRASSO. Thank you very much, Madam Chairman.

I look forward to the hearing today. Thank you for having it.

As I have stated in the past, my home State of Wyoming is the largest consumer in the United States of ammonium nitrate, a chemical oxidizer implicated in the West, Texas accident. Mining companies in Wyoming use over 1.5 billion pounds of ammonium nitrate each year in places like the Powder River Basin when they use it to extract coal.

At these mining sites, ammonium nitrate is mixed with fuel oil, pumped or poured into a blast hole which is then fitted with an initiation system. The subsequent explosion heaves away the rock to get to the coal and the minerals below.

Through this process, Wyoming and other mining States in places like Nevada, Kentucky, West Virginia and Ohio, can provide essential building materials as well as affordable energy for families and small businesses all around the Country.

The use of ammonium nitrate is so pervasive that there is no viable substitute for the commercial explosives industry. Without this material, the industry would have no alternative but to return to the use of nitroglycerin-based products which are far less safe.

We know there are a series of Federal agencies that regulate facilities like those in West, Texas, including OSHA, Homeland Secu-

rity, the Department of Transportation, the EPA, the Mine Safety and Health Administration, the U.S. Coast Guard and ATF.

OSHA has the most comprehensive standards for ammonium nitrate in terms of safety and has demonstrated its commitment to enforcing those standards. For example, on October 9, 2013, OSHA issued 24 citations to the owner of the West fertilizer facility.

As a result of the Interagency Working Group established by the President, OSHA is now considering if the standards need to be improved. Alternatively, the Working Group has asked whether OSHA should add ammonium nitrate to its Process Safety Management Program which could be a potential gateway to the EPA's Risk Management Program, the RMP.

As has been acknowledged by the Chemical Safety Board during hearings last year, there is no evidence that there has ever been an accidental detonation of ammonium nitrate when a facility has been compliant with the existing OSHA standards.

As a result of this track record, I support OSHA's proposed option to review and update its existing standards if necessary. OSHA has stated it will take appropriate time, perhaps a number of years, to finalize new requirements.

I do have concerns that the EPA has made conflicting statements about whether it will allow OSHA's process to play out before the agency attempts to inject itself into the regulatory framework by adding ammonium nitrate to the RMP.

On October 29, I along with Senators Manchin, Enzi, Hatch and Heller, wrote a bipartisan letter to EPA Administrator McCarthy expressing our concerns about regulating ammonium nitrate under the RMP.

Cynically, the EPA sent me a response to the letter last night. It came in after 6 o'clock last night for today's 9:30 a.m. hearing after waiting almost a month and a half. The letter was signed by today's EPA witness, Mr. Stanislaus.

Madam Chairman, I ask that my letter and the EPA's response be entered into the record.

Senator BOXER. Without objection.

[The referenced information follows:]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 10 2014

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

The Honorable John Barrasso, M.D.
United States Senate
Washington, D.C. 20510

Dear Senator Barrasso:

Thank you for your October 29, 2014, letter to the Environmental Protection Agency (EPA), Administrator Gina McCarthy, in which you urged the EPA not to regulate ammonium nitrate (AN) under the EPA's Risk Management Program (RMP). I appreciate your concern in this matter.

The public comment period on the EPA's Request for Information (RFI), associated with the RMP rule, ended on October 29, 2014. The agency is actively reviewing the comments submitted, along with the information provided in your letters, as we work to determine the most appropriate next steps to ensure the safe storage, handling, sale of AN, and to protect first responders, and the public. The EPA will also coordinate closely with our partner agencies to ensure there is no overlap or duplication of effort, and that any regulatory gaps associated with the safe storage, handling, and sale of AN are appropriately addressed.

Thank you again for your letter. Please contact me if you have further questions, or your staff may contact Carolyn Levine in the EPA's Office of Congressional and Intergovernmental Relations at levine.carolyn@epa.gov or 202-564-1859.

Sincerely,

Mathy Stanislaus

Mathy Stanislaus
Assistant Administrator

Senator BARRASSO. Thank you, Madam Chairman.

My colleagues and I believe that imposing additional regulatory burdens on compliant facilities by including ammonium nitrate in the EPA's RMP will do nothing to protect workers and the public from companies that, either through ignorance or for other reasons, avoid compliance with the Nation's safety rules.

The safety and security of our Nation's chemical facilities, our workers and our communities is vital. If we make a mistake and over regulate a needed chemical needlessly for political reasons, we could have a negative impact on mining, farming and other commercial operations around the Country. The end result will be lost jobs for already struggling communities.

With that, thank you very much, Madam Chairman. I look forward to the testimony.

Senator BOXER. Senator, thank you.

I just want to make the point that the RMP is the Risk Management Plan.

Senator BARRASSO. Yes.

Senator BOXER. The Administration is saying that if you have ammonium nitrite, you ought to have a plan to avoid the risk of something happening. You object to putting it in that risk management plan?

Senator BARRASSO. I support what OSHA is doing at this point.

Senator BOXER. Thank you very much. That is an important point.

Senator Franken, followed by Senator Crapo.

Senator FRANKEN. I don't have an opening statement other than to say I am happy we are having this hearing today. I look forward to hearing the testimony and asking some questions.

Senator BOXER. Senator, thank you so much.

Senator CRAPO.

Senator CRAPO. Thank you, Madam Chairman.

I don't have an opening statement either. I look forward to the testimony.

Senator BOXER. Senator Murphy, do you have an opening statement?

Senator MURPHY. No.

Senator BOXER. Then we will proceed to our witnesses. We will hear first from OSHA, Hon. David Michaels. Welcome, sir.

STATEMENT OF DAVID MICHAELS PH.D., MPH, ASSISTANT SECRETARY OF LABOR FOR OCCUPATIONAL SAFETY AND HEALTH, U.S. DEPARTMENT OF LABOR

Mr. MICHAELS. Good morning, Chairman Boxer and members of this committee. Thank you for holding this important hearing. As Assistant Secretary of Labor for OSHA, I am honored to testify today about our work improve safety and security of chemical facilities across the Country.

Last week, at a DuPont chemical plant in Texas, four workers died, including two brothers, as a result of release of a highly toxic methyl mercaptan. This comes in the wake of the tragic explosion at the West Fertilizer Company that killed 15 people last year.

Unfortunately, disasters like these are far too common. As the Chairman noted, in recent years, there have been numerous signifi-

cant process safety-related incidents resulting in more than 75 fatalities and hundreds of injuries.

In an effort to prevent these types of tragedies, President Obama issued Executive Order 13650, Improving Chemical Facility Safety and Security and to reduce the risks associated with hazardous chemicals to workers.

To accomplish these goals, EPA, DHS and DOL, along with other agencies, established an Interagency Working Group. Together, we undertook a comprehensive review of chemical safety and security programs, engaged in extensive stakeholder outreach to solicit feedback and identified best practices.

Using the information gathered, the Working Group took several actions including the creation of a Consolidated Federal Action Plan. The details of this plan, along with the progress made by the Working Group, are described in the report to the President which is summarized in my written statement.

In my short time before you today, I would like to focus on some of OSHA's efforts.

As you know, OSHA has standards requiring employers to protect workers at chemical facilities. For example, our Process Safety Management Standard, PSM, sets requirements for the management of highly hazardous substances.

Our Explosive and Blasting Agent Standard governs the manufacture, storage, sale, transport and use of explosives, blasting agents and pyrotechnics.

Our Flammable and Combustible Liquids standard applies to the handling, storage and use of flammable and combustible liquids. In addition, we have various emphasis programs to address specific hazards. We launched our oil refinery PSM program in 2007 following the 2005 BP explosion that killed 15 workers in Texas City.

We used our experience under this program to begin a similar emphasis program for PSM covered chemical facilities in 2011.

OSHA is exploring other actions to improve the safety of chemical facilities including changes to our emergency response standards, modernizing and updating the PSM standard and policies, regulating changes to improve ammonium nitrate safety and developing targeted outreach and guidance products. I will highlight a few of these efforts and refer you to my written statement for further details.

OSHA is committed to updating and modernizing our PSM standard. This was issued more than two decades ago when response to disastrous chemical releases in the United States and the catastrophe in Bhopal, India, the 30th anniversary of which was observed just last week.

Modernizing the PSM standard will allow us to implement advances in industry, recognize best practices and protect workers from hazards that currently are not covered. To begin this modernization process, OSHA issued a Request for Information. Based on the information collected in this process, we are considering addressing several issues which are detailed in my written statement.

We have also undertaken initiatives to improve ammonium nitrate safety as raised by Senator Vitter. We joined with the Agricultural Retailers Association and the Fertilizer Institute to dis-

tribute a letter providing the industry with information on our Explosive and Blasting Agent Standard.

More recently, we issued guidance to help our compliance officers apply all requirements to facilities that store ammonium nitrate. We are also in the final stages of forming an alliance with the fertilizer industry, emergency response organizations and others to promote best practices for ammonium nitrate safety.

Finally, as discussed in my testimony, OSHA has identified areas where legislation could significantly improve worker protections. These include improving coverage for all emergency response workers, many of whom have no OSHA coverage, and increasing OSHA Act civil and criminal penalties to serve as more credible deterrents as well as to keep up with inflation.

Frankly, our civil penalties are very low and we have virtually no criminal penalties.

I look forward to working with members of both committees, our Federal and State partners and stakeholders to address these and other important issues.

Thank you so much for your commitment to improving chemical facility safety and security and for your efforts on behalf of America's workers. I would be pleased to answer any questions you may have.

[The prepared statement of Mr. Michaels follows:]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 10 2014

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

The Honorable John Barrasso, M.D.
United States Senate
Washington, D.C. 20510

Dear Senator Barrasso:

Thank you for your October 29, 2014, letter to the Environmental Protection Agency (EPA), Administrator Gina McCarthy, in which you urged the EPA not to regulate ammonium nitrate (AN) under the EPA's Risk Management Program (RMP). I appreciate your concern in this matter.

The public comment period on the EPA's Request for Information (RFI), associated with the RMP rule, ended on October 29, 2014. The agency is actively reviewing the comments submitted, along with the information provided in your letters, as we work to determine the most appropriate next steps to ensure the safe storage, handling, sale of AN, and to protect first responders, and the public. The EPA will also coordinate closely with our partner agencies to ensure there is no overlap or duplication of effort, and that any regulatory gaps associated with the safe storage, handling, and sale of AN are appropriately addressed.

Thank you again for your letter. Please contact me if you have further questions, or your staff may contact Carolyn Levine in the EPA's Office of Congressional and Intergovernmental Relations at levine.carolyn@epa.gov or 202-564-1859.

Sincerely,

Mathy Stanislaus

Mathy Stanislaus
Assistant Administrator

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Introduction

Chairmen Casey and Boxer and distinguished Members of the Committees, thank you for holding this important hearing. As Assistant Secretary of Labor for Occupational Safety and Health, I am honored to testify before you today about the work the Department is doing, in collaboration with our fellow agencies, to improve chemical facility safety and security and to reduce risks to workers and surrounding communities posed by hazardous chemicals at these facilities.

Nearly a month ago, at a DuPont chemical plant in LaPorte, Texas, 4 workers died – including two brothers – as a result of a release of highly toxic methyl mercaptan. Unfortunately, incidents like these are far too common. In fact, chemical facilities continue to experience serious incidents on a regular basis that not only kill and injure workers at these plants, but also threaten the health and safety of those living nearby. In the past five years, at least 28 significant process safety related incidents have occurred, resulting in over 75 fatalities, multiple injuries, and extensive consequences for work places and communities.

Last year, a catastrophic failure of a heat exchanger in Geismar, Louisiana, resulted in a fire and explosion that killed two workers. And, of course, one of the reasons we're here today is the tragic explosion at the West Fertilizer Company in West, Texas, which killed 15 people in April of last year and destroyed surrounding buildings, including a middle school and a nursing home. The West Fertilizer explosion came only three years after the Deepwater Horizon explosion that killed 11 workers and created the biggest environmental catastrophe in our Nation's history.

These tragedies prompted President Obama, on August 1, 2013, to issue Executive Order (EO) 13650 - *Improving Chemical Facility Safety and Security*, to enhance the safety and security of chemical facilities and to reduce the risks associated with hazardous chemicals to workers and communities. The EO directed the Environmental Protection Agency (EPA), the Department of Labor (DOL), the Department of Homeland Security (DHS), the Department of Justice (DOJ), the Department of Agriculture (USDA), and the Department of Transportation (DOT) to identify ways to improve operational coordination with State, local, tribal, and territorial partners; to enhance Federal agency coordination and information sharing; to modernize policies, regulations, and standards to enhance safety and security in chemical facilities; and to work with stakeholders to identify best practices to reduce safety and security risks in the production and storage of potentially harmful chemicals.

Executive Order Working Group

To accomplish goals set by the President, EPA, DHS, and DOL's Occupational Safety and Health Administration (OSHA), established an interagency working group (National Working Group) that includes other Federal departments and agencies involved in the oversight of chemical facility safety and security. Recognizing that stakeholders are essential to managing and mitigating the risks of potential chemical facility hazards, the National Working Group initiated a robust stakeholder outreach effort to assist the National Working Group in identifying successes and best practices.

After conducting a thorough analysis of the current operating environment and existing regulatory programs and obtaining stakeholder feedback, the National Working Group took a

number of actions to minimize risks and developed a consolidated Federal Action Plan outlining additional actions to further minimize risks; these actions focus on five principles:

- Strengthening community planning and preparedness;
- Enhancing Federal, State, local, and tribal operational coordination;
- Improving data management;
- Modernizing policies and regulations; and
- Incorporating stakeholder feedback and developing best practices.

One of the most important outcomes of the EO has been enhanced interagency cooperation and improved working relationships. Member agencies of the National Working Group have been able to build upon each other's experience and expertise to conduct more effective outreach and enforcement. For instance, leadership from OSHA, EPA, and DHS form the Chemical Facility Safety and Security Executive Committee, which meets quarterly to set priorities and keep the National Working Group focused on completing the Federal Action Plan laid out in the May 2014 Report for the President ("Executive Order 13650 Actions to Improve Chemical Safety and Security – a Shared Commitment"). The National Working Group meets on a monthly schedule, and is managing the day-to-day implementation of the EO Action Plan.

The EO also mandated the establishment of a Region II (New York and New Jersey) Pilot, which included the following:

- A unified Federal, State, tribal, and local approach for identifying, communicating, and responding to risks at chemical facilities and a plan to improve operational coordination among the Federal, State, tribal, and local agencies and first responders;
- Completing an assessment of information collection and sharing in the Region;
- Improving overall coordination among all levels of government, the first responder community, and stakeholders;
- Chemical facility preparedness planning and response activities, including:
  - Participation on an Regional Response Team
  - Joint drills and exercises
  - Improving coordination between Federal and State agencies on programs, roles, and contacts
  - Inter-agency inspection information, data requests, and database access
  - Revised inspection protocols
  - Incident commander standard for senior fire department personnel
  - Training standard for hazardous materials (HAZMAT) responders
  - Electronic Tier II data management;
- Local Emergency Planning Commission (LEPC) guide for high-risk facilities; and
- A multi-agency guide for inspecting high-risk facilities.

Complementing the National Working Group's efforts, Regional Working Groups were established and have started meeting with the goal of implementing procedures like those developed during the Region II (New York and New Jersey) Pilot.

The National Working Group has relied heavily on stakeholder input and feedback in the development of the Action Plan, and we continue to keep stakeholders involved in its implementation. Altogether, OSHA, EPA, and DHS have held a dozen public listening sessions and met with scores of stakeholders from industry, labor and environmental organizations since the report was released. In addition, the EO Executive Committee held a public webinar on November 10 to update the public on our progress.

To further facilitate stakeholder input, the National Working Group has developed a new Lessons Learned Information System (LLIS), which is an online best practices repository to allow stakeholders and others involved in chemical facility safety and security to submit best practices as they are identified. We already have received and posted several submissions. Finally, we have redesigned the EO website (https://www.osha.gov/chemicalexecutiveorder/) to more closely align with the structure of the Action Plan 270-day Status Report, and to make it easier for organizations and the public to find the work we are developing. In addition, we continue to use an email account to collect input and questions.

OSHA will continue to Co-Chair the EO Executive Working Group and to participate in Working Groups on both the national and regional levels. These collaborative activities are vital to improving chemical facility safety and security and to minimizing the risks posed by related hazardous chemicals to workers and surrounding communities.

OSHA's Work to Help Assure the Safety and Health of Workers in Chemical Facilities

In addition to the collaborative efforts I have already described, OSHA has also been working for years on a variety of efforts to help assure the health and safety of workers at chemical facilities and prevent tragedies such as the West Fertilizer facility explosion.

As we saw in West Fertilizer, facilities that routinely handle large quantities of highly hazardous chemicals present unique and particularly challenging safety hazards, unlike conventional workplaces with safety hazards that typically impact only workers who are exposed to particular machines or working conditions at the plant, such as amputation hazards. In facilities that handle hazardous chemicals, the consequences of a single system failure anywhere in the system can be catastrophic for all workers in the plant, as well as the community nearby. In addition, the incident at West Fertilizer demonstrated that a facility does not have to be a refinery or chemical plant to cause an explosion or other incident with devastating consequences.

OSHA's Process Safety Management of Highly Hazardous Chemicals Standard

OSHA, in the wake of a disastrous chemical release in Bhopal, India, in 1984 and several other significant chemical accidents, issued its Process Safety Management of Highly Hazardous Chemicals standard (PSM standard) more than two decades ago. The standard, mandated by the Clean Air Act Amendments of 1990 and issued in 1992, sets requirements for the management of highly hazardous substances to prevent and mitigate hazards associated with catastrophic releases of flammable, explosive, reactive, and toxic chemicals that may endanger workers. The PSM standard covers the manufacturing of explosives and processes involving threshold

quantities of flammable liquids and flammable gasses, as well as 137 other highly hazardous chemicals.

The PSM standard, among other things, requires employers to compile process safety information and make hazard information and training available to employees and contractors. In addition, the standard requires employers to develop and communicate process hazard analyses (PHAs) that identify potential system failures, and to address and remediate risks identified by PHAs, as well as risks identified in other ways, such as by routine inspections or investigations of significant incidents. Employers also must maintain the mechanical integrity of critical process components, such as pressure vessels and relief systems. A key PSM requirement is that employers must, in a timely manner, address and resolve all identified safety issues, and communicate the resulting safety information and recommendations to all affected personnel, including management, employees, and contractors.

OSHA relies on the eyes and ears of workers to help identify workplace hazards since it cannot be present at all workplaces at all times, and has the capacity to inspect only a small fraction of the Nation's workplaces each year. To this end, workers must have an opportunity to participate in the employer's health and safety program, and be protected from retaliation or discrimination for exercising their health and safety rights. The Occupational Safety and Health Act of 1970 (OSH Act), which created OSHA to assure safe and healthful working conditions, includes important anti-retaliation provisions. The PSM standard also contains strong provisions for worker participation. In keeping with these provisions, OSHA has sought to create an environment in chemical facilities where workers feel they can report safety and health concerns without repercussions. The need for effective whistleblower protection is especially important in process safety management because PSM systems rely upon effective communication of hazard information to and from workers involved in these hazardous operations.

Additional OSHA Standards to Protect Workers from Major Chemical Accidents

Several other OSHA standards require employers to protect workers from hazards related to chemical facilities. For instance, OSHA's Explosive and Blasting Agents standard (29 CFR 1910.109) sets requirements for, among other things, the manufacture, storage, sale, transport, and use of explosives, blasting agents, and pyrotechnics. This standard requires that manufacturers of explosives and pyrotechnics meet the requirements of the PSM standard. The Explosive and Blasting Agents standard specifically covers ammonium nitrate storage and describes requirements for general storage, bulk storage, contaminants, electrical protection, and fire protection.

Another standard that applies to chemical facilities is OSHA's Flammable and Combustible Liquids standard (29 CFR 1910.106), which is based primarily on the National Fire Protection Association's (NFPA's) publication NFPA 30, *Flammable and Combustible Liquids Code*. The standard applies to the handling, storage, and use of flammable and combustible liquids with a flash point below 200°F. There are two primary hazards associated with flammable and combustible liquids: explosion and fire. To help prevent these hazards, this standard addresses the primary concerns of tank design and construction, ventilation, ignition sources, and storage.

OSHA also has several standards associated with emergency response that would apply in response to incidents at a chemical facility: 1910.38 Emergency Action Plans, 1910.156 Fire Brigade, and 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER).

OSHA National Emphasis Programs (NEP)

While the PSM standard has been effective in improving process safety in the United States and protecting workers from many of the risks associated with uncontrolled releases of hazardous chemicals, major incidents continue to occur. On March 23, 2005, 15 workers died and more than 170 others were injured in an explosion at the BP Refinery in Texas City, Texas. As a result of this incident, OSHA issued over 300 citations and fined BP over $21 million. Many of the citations were for PSM violations, including failing to properly implement mechanical integrity, training, and standard operating procedures. In a 2009 follow-up investigation, OSHA found numerous deficiencies at the BP Texas City Refinery and issued 270 failure-to-abate notices. In a 2010 settlement agreement with OSHA, BP agreed to pay a penalty of $50.6 million to resolve the continuing violations.

As a result of the BP explosion, in 2007 OSHA initiated its Petroleum Refinery PSM National Emphasis Program (NEP) to address the hazards of petroleum refineries. The program outlined a new approach for inspecting PSM-covered facilities. This approach, which better allocated OSHA's resources, enabled the agency to conduct a greater number of refinery inspections. OSHA completed the Petroleum Refinery NEP in 2012, having inspected 74 refineries in both Federal and State-Plan states.

OSHA compliance personnel found a widespread and deeply troubling failure to comply with basic process safety management principles in many refineries. On April 2, 2010, an explosion and fire at the Tesoro Refinery in Anacortes, Washington, killed seven workers. The incident occurred when a heat exchanger suddenly ruptured during maintenance, releasing a highly hazardous chemical that subsequently exploded. Inspectors from the Washington State Department of Labor and Industries' Division of Occupational Safety and Health (DOSH) found that Tesoro failed to properly implement its PSM program by inadequately testing its equipment and continuing to operate failing equipment. DOSH issued 44 citations to Tesoro, 36 of which were PSM citations, totaling $2.39 million.

In light of the experience gained from the Petroleum Refinery NEP, in November 2011, OSHA initiated the PSM-Covered Chemical Facility National Emphasis Program to focus on facilities that present the potential for catastrophic incidents. Since then, OSHA has conducted 645 inspections under the NEP. OSHA compliance personnel have found more than 3,100 violations of OSHA standards during these inspections, primarily in PSM.

Although OSHA believes that the Refinery and Chemical Facility NEPs encouraged employers to build more robust chemical process safety systems and ultimately prevented releases of highly hazardous chemicals, much more needs to be done. OSHA – between the Federal program and the State Plans – has slightly more than 2,000 inspectors to cover workplace safety and health in over 7 million workplaces across the country. Process safety management inspections are more resource intensive than most other OSHA inspections, and OSHA is limited in the number of the Nation's chemical facilities we can inspect in any given year. As a result, we must explore other strategies. The President's Executive Order has set us on that path.

OSHA's Continuing Efforts to Improve the Safety of Chemical Facilities

OSHA is exploring a variety of other actions to improve the safety of chemical facilities. These include considering changes to our emergency response standards, considering regulatory changes to improve ammonium nitrate safety, and modernizing and updating the PSM standard and policies, as well as developing targeted outreach and guidance products as appropriate.

Safety Protections for Emergency Responders

For instance, with the objective of improving safety protections for emergency responders, OSHA held a public meeting to gather stakeholder input as we consider developing a new comprehensive emergency response and preparedness standard to integrate requirements of existing OSHA standards. The meetings attracted close to 50 participants and nearly the same number of observers. Participants represented a broad range of emergency responders as well as allied stakeholders, such as State Plan representatives, skilled support workers, and law enforcement. Some of the stakeholders involved included the International Association of Firefighters, the International Association of Fire Chiefs, National Volunteer Fire Council, National Fire Protection Association, National Fallen Firefighters Foundation, and the American Federation of Labor and Congress of Industrial Organizations (AFL–CIO).

Potential Updates to Emergency Response Standards

In addition, OSHA will utilize the National Advisory Committee on Occupational Safety and Health (NACOSH) to assist with the development of a proposed standard on Emergency Preparedness and Response. A working group – likely composed of 16 subject matter experts representing a broad range of stakeholders – will be established under NACOSH to gather information, including public input, and to review and amend the draft regulatory text proposed by OSHA. The working group will report back to NACOSH, which will make its recommendations to OSHA.

Ammonium Nitrate Safety Actions

OSHA has also undertaken a number of initiatives to improve ammonium nitrate safety to prevent incidents such as the one that occurred in West, Texas. For instance, OSHA joined with the Agricultural Retailers Association and the Fertilizer Institute to distribute a letter regarding ammonium nitrate storage to the fertilizer industry that provided information on the applicability and requirements of OSHA's Explosives and Blasting Agents standard. In addition, OSHA joined with EPA and the Bureau of Alcohol, Tobacco, and Firearms (ATF) to produce a comprehensive Chemical Advisory that addresses the hazards of ammonium nitrate, how to manage these hazards, and appropriate steps for community emergency planning and proper emergency response.

We are also in the final stages of forming an OSHA Alliance with the fertilizer industry, emergency response organizations, and other National Working Group agencies to promote best practices for ammonium nitrate safety. Participants in the Alliance include OSHA, EPA, DHS, the Agricultural Retailers Association, the Fertilizer Institute, the International Association of Firefighters, the Ammonia Safety Training Institute, and the National Volunteer Fire Council. Specifically, the Alliance is intended to:

- Share information on OSHA/EPA Rulemaking and National Emphasis and related Programs, OSHA's Regulatory Agenda, and opportunities to participate in the rulemaking process, including chemical accident prevention regulations under the Clean Air Act and emergency planning and preparedness regulations under the Emergency Planning and Community Right-to-Know Act; and
- Work together to develop information on the recognition and prevention of workplace hazards, and to develop ways of communicating such information to employers and workers in the industry as well as in the surrounding communities.

Finally, we will consider rulemaking options to prevent ammonium nitrate hazards more effectively through either amending the PSM standard or the Explosives and Blasting Agents standard. If we decide that the PSM standard is the most appropriate regulation to address ammonium nitrate hazards, we will consider addressing these hazards through one of the following options: 1) covering reactive chemical hazards under the PSM standard, or 2) adding ammonium nitrate specifically to the PSM Appendix A highly hazardous chemicals list. To guide our determination as to the best course of action, we are currently researching and gathering data to help us understand the safety and health and economic impacts of both options.

Modernizing OSHA's PSM Standard to Improve Safety and Enforcement

OSHA's PSM standard is over 20 years old. While OSHA, industry, and labor generally agree that the standard has been effective in reducing process safety incidents, major incidents continue to occur. Modernizing the PSM standard will allow us to overcome obstacles to effective enforcement of the standard, implement advances in industry-recognized best practices, and protect workers from process safety hazards that were previously not covered.

Using lessons learned from incident investigations, enforcement experience, and comparison with industry practices and regulatory requirements of other States, counties, and countries, OSHA has determined that a stronger PSM standard can more effectively prevent incidents and protect workers. OSHA's enforcement experience over the past two decades suggests that a number of potential regulatory and policy improvements would improve PSM compliance as well as enforcement and oversight of facilities covered by the PSM standard. Modifications to the PSM standard may also address reactive chemical hazards, oil and gas drilling and servicing, and the failure of some chemical facilities to plan and prepare adequately for accidental releases in coordination with local emergency responders.

To begin the process of modernizing the PSM standard, OSHA issued a Request for Information (RFI) in December 2013 to collect data related to several issues that we had identified through initial feedback, incident investigation, and enforcement experience. We took public comment on the RFI until March 31, 2014. A link to the RFI and to the docket that contains the public comments is on the EO website, www.osha.gov/chemicalexecutiveorder.

Based on information collected in this process, we plan to address several issues. To begin with, we intend to clarify confusing and misunderstood policies. For instance, the PSM standard has an exemption for retail facilities. However, the standard itself does not define "retail facilities" and early interpretations define a retail facility in a vague manner that has proven very difficult to understand and apply. We are considering a revision of the current interpretation of "retail

facilities" to reflect more accurately the original intent of the exemption as expressed in the preamble to the final rule.

In addition, OSHA is considering revision of the current interpretation of chemical concentrations to more clearly describe what the PSM standard covers and to align the standard with established best practices and the EPA's Risk Management Program (RMP) concentration criteria, making the two regulatory programs more consistent.

Among other things, as part of the PSM rulemaking process, OSHA plans to consider:

- Clarifying the PSM standard to incorporate lessons learned from enforcement, incident investigation, and advancements in industry practices, for example, root cause analysis, process safety metrics, enhanced employee involvement, third-party audits, and emergency response practices.
- Adding substances or classes of substances to the PSM Appendix A highly hazardous chemicals list and providing more expedient methods for future updates. We are still working to identify substances that should be included.
- Expanding coverage and requirements for reactive chemical hazards, which have resulted in many incidents. There has been a long history of incidents resulting from reactivity hazards, but regulatory coverage remains a technically complex issue. We are looking at different options and considering other models such as that implemented by the State of New Jersey.
- Covering oil and gas drilling and servicing work explicitly. We are still gathering information and recognize that upstream oil and gas production has one of the highest fatal injury rates of any industry, and more needs to be done to protect the health and safety of that industry's workers.
- Requiring analysis of safer technology and alternatives, in coordination with EPA's activities under the RMP. We find that employers can make their processes safer by incorporating a combination of risk reduction analysis and hierarchy of control techniques that are currently industry best practices.
- Requiring coordination between chemical facilities and emergency responders to ensure that emergency responders know how to use chemical information to safely respond to accidental releases, possibly including exercises and drills.

As a next step towards developing a proposed rule to modernize the PSM standard, we plan to initiate the Small Business Regulatory Enforcement Fairness Act (SBREFA) review by mid-2015 in order to solicit small business views on modernizing the PSM standard. In addition, OSHA has identified some areas where we think guidance can be helpful, and can be issued relatively quickly. To this end, OSHA and the National Working Group are developing additional forms of guidance to assist employers in protecting workers.

Potential Legislative Initiatives to Improve Worker Protection

OSHA has identified areas where legislation could have a significant impact in improving protections for workers by: increasing OSH Act coverage to all emergency response workers and increasing OSH Act penalties to keep up with inflation and to serve as a deterrent.

Coverage for All Workers

Most of those killed as a result of the West Fertilizer explosion were emergency volunteer responders. Private sector emergency responders may be covered by a number of OSHA standards, including the HAZWOPER standard. Federal OSHA, however, does not cover public employees or volunteers. OSHA's 21 State Plan States (and four "public employee only" states) cover public employees. Coverage of volunteers in OSHA State-delegated programs is based on each State's individual law; some States provide no coverage for volunteers. EPA, under 40 CFR 311, is responsible for enforcing the OSHA HAZWOPER standard for public employees in Federal OSHA States (*i.e.*, States without approved OSHA programs). EPA's regulation also covers volunteers who work for a governmental agency engaged in emergency response, such as firefighters, in Federal OSHA States, but again, this is only a subset of States. OSHA is working with Congress to discuss legislation that would ensure full protection of all emergency responders, whether private sector, public sector or volunteers.

Increasing OSH Act Penalties

OSHA's PSM standard and EPA's RMP regulation were promulgated at about the same time, pursuant to the Clean Air Act Amendments, to address similar underlying general hazards. Yet, the OSH Act's penalty provisions are much weaker than those under the Clean Air Act's RMP program. This imbalance in penalties should be corrected by strengthening the OSH Act's civil monetary penalties and indexing them for inflation. In addition to increased civil monetary penalties, the criminal penalty provisions of the OSH Act should be strengthened to provide a credible deterrent in order to achieve greater compliance with workplace safety and health standards.

Conclusion

To prevent more incidents like BP Texas City, West Fertilizer, and, most recently, DuPont LaPorte, OSHA is working to improve its standards and is looking for more effective ways to enforce the law. But more must be done. Under the Executive Order on Improving Chemical Facility Safety and Security, OSHA is working closely with EPA and DHS, along with other Federal and State agencies, labor unions, industry associations, environmental groups, community organizations, and others to leverage resources and build a more comprehensive approach to chemical plant safety. We are not only cooperating effectively to oversee the Nation's chemical industry, but we are also incorporating best practices gleaned from our industry and labor partners to ensure that all chemical facilities have the tools they need to prevent catastrophic incidents.

We can't do it alone. We need the continued support of Congress to ensure adequate funding, enact necessary legislative changes to improve protection for America's brave emergency responders, and to increase penalties for facilities that put their employees and communities at risk by taking shortcuts and ignoring basic safety requirements.

Thank you for your commitment to improving chemical facility safety and security and for your efforts on behalf of America's workers. I look forward to working with the members of both Committees to address these and other important issues.

Thank you again for the opportunity to testify before you today. I would be pleased to answer any questions you may have.

Environment and Public Works Committee Hearing
"Oversight of the Implications of the President's Executive Order on Improving Chemical Facility Safety and Security"
December 11, 2014

Questions from Senator Barbara Boxer:

1. Following the August 2012 chemical release and fire at the Chevron refinery in Richmond, California, Governor Brown established a Refinery Safety Task Force. The Refinery Task Force issued its report on February 2014, making a number of recommendations to improve safety at California refineries, including implementing inherently safer technologies to the greatest extent feasible. On October 31, 20 14, the California Department of Industrial Relations, Division of Occupational Safety and Health, issued draft revised regulations for Process Safety Management (PSM) at refineries. The California legislature recently passed, and the Governor signed, a bill (SB 1300), which requires petroleum refineries to annually report their schedule for "turnarounds" to Cal/OSHA, and to provide Cal/OSHA with documentation on refinery safety. A "turnaround" is any instance of an industrial plant or unit being partially or totally taken off stream or offline for the purposes of maintenance, overhaul, repair, inspection, testing, or replacement of materials or equipment. To what extent has OSHA collaborated with Governor Brown's Refinery Task Force? Is OSHA considering implementing refinery safety requirements similar to those implemented by Cal/OSHA. If not, why not?

Response: OSHA is aware of the proposed changes in California's PSM standard. OSHA has been briefed by Cal/OSHA on the content of their proposal, and we are considering California's proposed options, along with a wide range of other proposals received in the Request for Information on revising Federal OSHA's PSM standard.

2. You have been candid in explaining that proposed changes to OSHA's Process Safety Management (PSM) regulations are at least 5 years away. Could you explain why updating these rules has taken so long and what could be done to accelerate the process?

Response: OSHA's rulemaking process is extensive and is governed by a number of legal, internal, or executive order requirements. In April 2012, GAO completed a study of OSHA's rulemaking process and issued a report, "Workplace Safety and Health: Multiple Challenges Lengthen OSHA's Standard Setting." GAO concluded that many of the time-consuming steps in the promulgation of OSHA regulations are external and beyond OSHA's control. (The full text of GAO's report is found at: http://www.gao.gov/assets/590/589825.pdf.) OSHA must conduct extensive feasibility and economic analyses. The OSHA rulemaking process also contains multiple opportunities for public participation. The President's FY2016 Budget provides resources that OSHA needs to move through the rulemaking process more expeditiously. Beyond that, it would be difficult to significantly accelerate the process for such a large and technically complex rulemaking due to legal, internal, or executive order requirements.

Questions from Senators Barbara Boxer and Edward J. Markey

3. Executive Order 13650 ordered a number of specific actions to be completed by the Working Group. For the following list of actions, please indicate: i) whether the action was completed as directed in the Executive Order; ii) if so, provide a copy of the plan, assessment, list, analysis, recommendations, proposal, options, determination, Request for Information, or Solicitation of Public Input/Comment; and, iii) if not, indicate the date on which the action will be completed as directed. In each response, please also describe how the Working Group had addressed each specific element within each of the specific actions required by the Executive Order.

a. The assessment conducted by the Attorney General, through the head of the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), into the feasibility of sharing data related to the storage of explosive materials with State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), Local Emergency Planning Committees (LEPCs), Tribal Emergency Planning Committees (TEPCs). (Sec. 3(b); Within 90 days).

Response: Each of the requirements of the EO were completed within the timeframe designated in the executive order as noted in the Progress Updates provided to Congress in December 2013, and February 2014, which can be found at: https://www.osha.gov/chemicalexecutiveorder/index.html. The Report for the President issued on June 6, 2014, included the findings, lessons learned, actions taken by that date, prioritized next steps, and the path forward. As the owner of data related to explosive materials, the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) has taken the lead on this issue. OSHA defers to the ATF to respond.

b. The assessment conducted by the Secretary of Homeland Security into the feasibility of sharing Chemical Facility Anti-Terrorism Standards (CFATS) data with SERCs, TEPCs, and LEPCs on a categorical basis. (Sec. 3(c); Within 90 days).

Response: Each of the requirements of the EO were completed within the timeframe designated in the executive order as noted in the Progress Updates provided to Congress in December 2013, and February 2014, which can be found at: https://www.osha.gov/chemicalexecutiveorder/index.html. The Report for the President issued on June 6, 2014, included the findings, lessons learned, actions taken by that date, prioritized next steps, and the path forward. With respect to sharing CFATS data, as the owner of that data, the Department of Homeland Security has taken the lead on this issue. OSHA defers to the Department of Homeland Security to respond.

c. A list of any changes determined to be needed to existing memorandums of understanding (MOUs) and processes between EPA and CSB, ATF and CSB, and the Occupational Safety and Health Administration (OSHA) and CSB for timely and full disclosure of information. Please provide copies of the current drafts of the revised MOUs; or, if it was deemed to be

appropriate by the Working Group, a draft of the single model MOU developed with CSB in lieu of existing agreements. (Sec. 4(c); Within 90 days).

Response: The Department of Justice is continuing deliberations with the CSB regarding Federal department and agency MOU development and implementation. OSHA is assisting DOJ as appropriate, and, meanwhile continues to operate under the existing MOU.

d. The analysis, including recommendations, on the potential to improve information collection by and sharing between agencies to help identify chemical facilities which may not have provided all required information or may be non-compliant with Federal requirements to ensure chemical facility safety. (Sec. 5(a); Within 90 days).

Response: Each of the requirements of the EO were completed within the timeframe designated in the executive order as noted in the Progress Updates provided to Congress in December 2013, and February 2014, which can be found at:
https://www.osha.gov/chemicalexecutiveorder/index.html. The Report for the President issued on June 6, 2014, included the findings, lessons learned, actions taken by that date, prioritized next steps, and the path forward.

In order to improve data sharing among Federal departments and agencies, the EO National Working Group is linking data from multiple agencies. The EPA's Facility Registry Service (FRS) integrates facility data from nearly 90 different Federal and state systems, allowing users to compare facilities between systems, including chemical data and compliance history. The FRS has been updated to include facilities that complete a DHS Top-Screen submission for CFATS, which allows Federal departments and agencies to identify: (1) facilities that are covered by multiple Federal regulatory entities, and (2) potentially non-compliant facilities, often referred to as "outliers," as well as public information about OSHA inspections. Information from OSHA inspections is collected during an inspection; OSHA does not require employers to submit this type of information.

e. The recommendations for possible changes to streamline and otherwise improve data collection to meet the needs of the public and Federal, State, local, and tribal agencies (including those charged with protecting workers and the public), consistent with the Paperwork Reduction Act and other relevant authorities, including opportunities to lessen the reporting burden on regulated industries. (Sec. 5(c); Within 180 days).

Response: Each of the requirements of the EO were completed within the timeframe designated in the executive order as noted in the Progress Updates provided to Congress in December 2013, and February 2014, which can be found at:
https://www.osha.gov/chemicalexecutiveorder/index.html. The Report for the President issued on June 6, 2014, included the findings, lessons learned, actions taken by that date, prioritized next steps, and the path forward.

OSHA does not require this type of data collection. OSHA has worked with EPA and DHS to make the information we collect during inspections available to enhance the work of the other Agencies in streamlining the needs of the public and Federal, state, local, and tribal agencies.

f. The options developed for improved chemical facility safety and security that identifies improvements to existing risk management practices through agency programs, private sector initiatives, Government guidance, outreach, standards, and regulations. (Sec. 6(a)(i); Within 90 days).

Response: To meet the directive of the EO to modernize key policies, regulations, and standards, on January 3, 2014, the Working Group published a preliminary list of options for improving chemical facility safety and security for stakeholder comment. The options identified resulted from reviewing existing programs, recommendations from the safety and security communities, and feedback from the EO listening sessions as well as reviewing investigation reports of major incidents. Drawing on stakeholder comment, the Working Group plan for modernizing policies and regulations are detailed in the Report for the President, which is available at https://www.osha.gov/chemicalexecutiveorder/index.html.

g. The list of potential regulatory and legislative proposals to improve the safe and secure storage, handling, and sale of ammonium nitrate and identify ways in which ammonium nitrate safety and security can be enhanced under existing authorities. (Sec. 6(b); Within 90 days).

Response: On August 30, 2013, EPA, OSHA, and the ATF released a chemical advisory (http://www2.epa.gov/sites/production/files/2013-10/documents/an_advisory.pdf) that provides information to communities, workers, first responders and commercial sectors on the hazards of ammonium nitrate (AN) storage, handling, and management. To further bolster these efforts, in February 2014, I signed a letter (https://www.osha.gov/dep/fertilizer_industry/letter_fertilizer_industry.html) that was circulated by agricultural trade associations to provide more than 7,000 employers with legal requirements and best practice recommendations for safely storing and handling ammonium nitrate.

OSHA is developing rulemaking options to better cover AN hazards through either the PSM standard or improvements to the Explosives and Blasting Agents standard. As OSHA develops its approach to improve workplace safety associated with ammonium nitrate hazards, EPA will consider if additional action to protect the community is needed to complement OSHA regulations. As far as non-regulatory approaches are concerned, EPA, OSHA, and ATF plan to update the *Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate*, which was first published on August 30, 2013, in June of 2015 which will include new information resulting from the West, Texas, incident investigation, newly developed procedures and practices, new technical information, and clarifications and corrections. In addition, OSHA issued a memorandum to its Regional Administrators in November 2014 to clarify its policy for enforcing section 109(i).

h. The determination of whether the EPA's Risk Management Program (RMP) and the OSHA's Process Safety Management Standard (PSM) can and should be expanded to address additional regulated substances and types of hazards, and the plan, including a timeline and resource requirements, to expand, implement, and enforce the RMP and PSM in a manner that addresses the additional regulated substances and types of hazards. (Sec. 6(c); Within 90 days).

Response: To meet the directive of the EO to modernize key policies, regulations, and standards, on January 3, 2014, the Working Group published a preliminary list of options for improving chemical facility safety and security for stakeholder comment. The options identified resulted from reviewing existing programs, recommendations from the safety and security communities, and feedback from the EO listening sessions as well as reviewing investigation reports of major incidents. Drawing on stakeholder comment, the Working Group developed a plan for modernizing policies, which is laid out in the May 2014 Report for the President (*Executive Order 13650: Actions to Improve Chemical Facility Safety and Security – A Shared Commitment*).

As a next step towards developing a proposed rule to modernize the PSM standard, OSHA plans to initiate the Small Business Regulatory Enforcement Fairness Act (SBREFA) review process this summer to solicit small business views on modernizing the PSM standard based on information collected from the OSHA RFI and the EO Section 6 Options document.

i. The list of chemicals, including poisons and reactive substances that should be considered for addition to the CFATS Chemicals of Interest list. (Sec. 6(d); Within 90 days).

Response: Each of the requirements of the EO were completed within the timeframe designated in the executive order as noted in the Progress Updates provided to Congress in December 2013, and February 2014, which can be found at: https://www.osha.gov/chemicalexecutiveorder/index.html. The Report for the President issued on June 6, 2014, included the findings, lessons learned, actions taken by that date, prioritized next steps, and the path forward.

As the agency responsible for issuing CFATS regulations, the Department of Homeland Security is lead on this issue. OSHA defers to the Department of Homeland Security to respond. In Section 550 of the Department of Homeland Security Appropriations Act of 2007, Public Law 109-295, Congress authorized DHS to issue interim final regulations to regulate the security of high-risk chemical facilities. On December 18, 2014, the President signed into law the Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014 (the Act), Public Law 113-254 (6 U.S.C. 621 et seq.). The Act reauthorizes the CFATS program and adds new provisions, while preserving most of the existing CFATS regulations.

j. The list of changes that need to be made in the retail and commercial grade exemptions in the PSM Standard and the Request for Information designed to identify issues related to modernization of the PSM Standard and related standards necessary to meet the goal of preventing major chemical accidents. (Sec. 6(e); Within 90 days).

Response: Each of the requirements of the EO were completed within the timeframe designated in the executive order as noted in the Progress Updates provided to Congress in December 2013, and February 2014, which can be found at: https://www.osha.gov/chemicalexecutiveorder/index.html. The Report for the President issued on June 6, 2014, included the findings, lessons learned, actions taken by that date, prioritized next steps, and the path forward.

OSHA is considering clarifying policies for the PSM standard related to retail facilities and chemical concentration for coverage. Specifically, OSHA is considering a modification to the current interpretation of "retail facilities" based on comments received in OSHA's PSM RFI process to more accurately reflect the original intent of the exemption as expressed in the PSM Preamble to the Final Rule. In addition, as indicated in the RFI on modernizing the PSM standard which OSHA issued on December 9, 2013, OSHA requested comments on a proposed modification to the current interpretation of chemical concentrations covered by OSHA's PSM standard to more clearly describe what is covered and align with better established practices. OSHA is considering the appropriate vehicle, including but not limited to an OSHA Directive, to implement the changes.

Further explanation of these policies is given in the RFI noted above. (Also available at http://www.gpo.gov/fdsys/pkg/FR-2013-12-09/pdf/2013-29197.pdf.)

Questions from Senator Robert P. Casey

1. It's evident by the West,Texas, fertilizer plant explosion and the GAO and EO reports that there is a real limitation on OSHA's ability to ensure worker safety at their facilities. Compliance assistance works great for employers who want to do the right thing, but unfortunately, it doesn't help protect workers whose employers don't make worker safety a priority. And, as you state in your testimony, "OSHA doesn't have the resources or capacity to inspect all of these facilities." That's why we have to make sure there's an effective deterrent, in the way of strong civil and criminal penalties, to help ensure that employers comply with the law, and the employees feel safe on the job.

   Dr. Michaels- can you tell us what civil and criminal penalties currently exist and what actions we need to take to make them a more effective deterrent?

Response: While most employers want to do the right thing in protecting their workers, there are those that do not place a high enough priority on worker safety. As a result, an effective deterrent is needed to ensure all workers are protected.

OSHA can impose limited civil money penalties on an employer for violations of the general duty clause of the Occupational Safety and Health Act (OSH Act) or of a specific OSHA standard. The amount of the penalty depends upon the gravity of the violation, size of the employer's business, the good faith of the employer, its history, and its characterization. A penalty of up to $7,000 can be imposed for serious or other-than-serious violations. If an employer willfully or repeatedly exposes its employees to hazards, OSHA may impose a penalty of only up to $70,000. In cases where the employer fails to correct cited violations, OSHA may impose a penalty of up to $7,000 each day during which the failure or violation continues.

If an employer is convicted of willfully violating a standard that causes the death of an employee, a penalty of up to $250,000 for an individual and up to $500,000 for an organization can be imposed. Criminal convictions of the OSH Act are classified as misdemeanors.

OSHA will continue to enforce the Act and standards vigorously consistent with OSHA policy. Administrative changes have been made to enhance the deterrent effect of penalties. OSHA's civil and criminal money penalties, however, remain too low to have a meaningful deterrent effect and are significantly lower than other Federal agencies such as the Environmental Protection Agency.

As an example, when a tank full of sulfuric acid exploded at the Motiva Enterprises oil refinery in Delaware, it killed a worker at the refinery. His body literally dissolved in the acid. The OSHA penalty was only $175,000. Yet, in the same incident, thousands of dead fish and crabs were discovered, allowing EPA to assess a $10 million penalty for violating the Clean Water Act. OSHA supports the specific provisions proposed by the prior session of Congress in the Protecting America's Workers Act (PAWA) that seek to modernize both civil and criminal penalties, including the inflation adjustment specification. These changes would solve the problem of penalty levels being eroded by inflation and make them meaningful deterrents. As part of their 2016 Budget proposal, the President has proposed to increase OSHA civil penalties and also to subject them to the law that provides for the inflationary increase of civil penalties

government-wide. We believe this would strengthen the OSH Act by dealing with critical weaknesses in the current law and significantly increase our ability to protect America's workers in all workplaces, including chemical facilities.

2. In your testimony you state that OSHA's Process Safety Management Standard (PSM) is over 20 years old and that "OSHA has determined that a stronger PSM standard can more effectively prevent incidents and protect workers"

    a. Dr. Michaels- can you further detail a few of the gaps you believe exist in our current PSM standard and how these gaps are putting, not just workers but as we saw in West, Texas, surrounding communities (including schools and residential communities) at risk?
        i. The Exemption for retail facilities
        ii. Reactive chemical hazards
        iii. Oil and gas drilling and servicing work
    b. What are the risk or potential costs of not expediting any update to these 20 year old PSM standards?

Response: The PSM standard is OSHA's primary standard for protecting workers from these types of hazards. While it is widely recognized that the standard has been effective in improving process safety and protecting workers, major incidents, such as those in West and Laporte, Texas, have continued to occur. These incidents illustrate that workers, volunteers, and community members are not adequately protected and that more needs to be done.

The gaps you highlight concern the overall scope of the PSM standard. While the PSM standard has an exemption for retail facilities, the standard itself does not define "retail facilities." Under the current interpretation of the retail exemption, facilities can potentially contain large quantities of highly hazardous chemicals, such as anhydrous ammonia, without being required to identify and control the hazards posed by these materials. OSHA is considering a revision of the current interpretation of "retail facilities" to reflect more accurately the original intent of the exemption as expressed in the preamble to the final rule.

Moreover, the PSM standard was based primarily on industry best practices that were in place 20 years ago. Since then, industry has recognized additional practices are necessary for a comprehensive process safety management system, and new best practices have been developed. Modernizing the PSM standard would, implement advancements in management practices for reducing risk and controlling hazards and better protect workers from previously unrealized chemical hazards.

Addressing PSM enforcement in the oil and gas sector and reactive hazards potentially through rulemaking would have the effect of increasing the number of facilities containing significant quantities of highly hazardous chemicals that are required to comply with the PSM standard and reducing the risk of toxic releases, explosions, and fires at those facilities, as explained below.

- Reactive Hazards: The PSM standard does not explicitly address chemical reactivity hazards. Reactive hazards can take the form of violent explosions, toxic releases, and fires. While many reactive incidents have involved materials covered under the PSM standard, some have not. Reactive incidents not covered under PSM have, for example, killed employees and hurled debris into surrounding businesses and communities. The Chemical Safety Board issued a report in 2002 that identified hundreds of reactive incidents resulting in multiple fatalities involving chemicals not covered by OSHA's PSM standard. The CSB called on OSHA to amend the PSM standard to achieve more comprehensive control of reactive hazards. Since the CSB recommendation, OSHA has taken a number of actions that involve guidance and outreach. OSHA solicited comments in the Request for Information, and expects to consider options for coverage of reactive hazards in the PSM rulemaking process.

- Oil- and gas-well drilling and servicing operations: Oil- and gas-well drilling and servicing operations are exempt from PSM coverage. Oil and gas activities can involve very high pressures, as well as the potential for flammable and toxic releases. The 1992 preamble to the PSM final rule explained that OSHA excluded these operations because it had begun a separate rulemaking for oil and gas well drilling and servicing operations (48 FR 57202). However, the Agency subsequently removed the oil and gas well drilling and servicing operations rulemaking from its regulatory agenda and never promulgated a final rule for these operations. In light of this history, OSHA solicited comments in the Request for Information, and is considering removing this exemption and covering oil- and gas-well drilling and servicing operations under PSM.

3. I am concerned that worker safety protections do not extend to the courageous and heroic volunteer emergency responders in this country, who go into dangerous situation where there lives and well-being are often at risk. We should do whatever we can to ensure that we are controlling any hazards that can be controlled, to limit the risk for all emergency responders (private- sector, public-sector, or volunteers) as much as possible.

   Dr. Michaels- in your testimony, you note that volunteers can be covered by state Plan States, (OSHA-approved job safety and health programs operated by individual states instead of Federal OSHA) depending on their individual state laws. How many of the State Plan States currently cover volunteers?

Response: The West, Texas, disaster revealed the challenges and basic problems facing many emergency responders throughout the country who have insufficient access to tactical and planning information and HAZMAT readiness to respond effectively. Most emergency responders are either public employees or volunteers. Neither public employees nor volunteers are covered by the OSH Act. In the 25 States that have delegated OSHA programs, State and local government employees are covered by their state OSHA programs. However, coverage of volunteers in OSHA State-delegated programs is based on each State's individual law; some States provide no coverage for volunteers.

OSHA's Hazardous Waste Operations and Emergency Response standard (HAZWOPER) is the OSHA standard that most effectively protects emergency response workers. In Federal OSHA

states where OSHA does not enforce HAZWOPER for public employees and volunteers, the EPA, under 40 CFR 311, is responsible for enforcing HAZWOPER standard for public employees. EPA's regulation also covers volunteers who work for a governmental agency engaged in emergency response, such as firefighters, in Federal OSHA States. However, coverage of volunteers in OSHA State-delegated programs is based on each State's individual law; most states provide some coverage for some volunteers, but some States provide no coverage for volunteers.

State Plan coverage of what is commonly considered a "volunteer" is a complicated issue, with many state-specific nuances. Most State Plans would not cover individuals who fall under the state's definition of volunteer, and would only cover those who fall under the definition of an employee. For purposes of the OSH Act, the definition of employee varies from state to state, and it commonly hinges on the existence of an employer-employee relationship, which, in many states, is determined on a case-by-case basis depending on whether the individual receives some form of compensation in exchange for his/her work (this commonly includes, but is not limited to, traditional wages, eligibility for worker's compensation, training, or health benefits).

For example, the Michigan occupational safety and health statute defines an employee as a person permitted to work. In evaluating volunteer work to determine whether an employer-employee relationship exists, a number of factors are considered, including control of the work, compensation, and the production of a good or service. Michigan generally considers volunteer firefighters to be employees. Likewise, in Arizona, the definition of employee under the Arizona workers' compensation statute (which is incorporated by reference in the Arizona occupational safety and health statute's definition of employee), specifically includes volunteer firefighters and volunteer police reserves, even if unpaid.

Question: What can we do to better protect all emergency responders, including volunteers?

Response: In the Report for the President on Executive Order 13650, OSHA pledged to work with Congress to ensure all emergency responders – whether private sector, public employees, or volunteers – receive equal coverage under workplace safety and health standards. The Protecting America's Workers Act, proposed by the previous session of Congress, includes language that would provide coverage for public employees nationwide. Adding language covering volunteers would provide OSHA coverage for volunteers as well.

Meanwhile, OSHA is considering updating all of its emergency response and preparedness standards through the assistance of a working group of experts under the National Advisory Committee for Safety and Health. OSHA held stakeholder meetings in July 2014 to solicit initial comments on this, and participants included representatives of volunteer firefighting organizations.

OSHA will continue to work with Congress to discuss legislation that would ensure full protection of all emergency responders, whether private sector, public sector or volunteers.

4. On Tuesday (12/9) of this week a Charleston Gazette article (see back pocket of binder) by Ken Ward Jr. reported that:

   Just before Thanksgiving, the White House quietly released its most recent regulatory agenda, indication the combustible dust rule was moved to its "long-term actions" category, with no deadlines or timelines for completion.

I understand OSHA has limited resources and capacity to finalize regulations and is forced to prioritize rules on the regulatory agenda and the process is burdened with delays as the April 19, 2012 GAO report (Multiple Challenges Lengthen OSHA's Standard Settings) which states, it can take up to 19 years for OSHA to develop and issue safety standards. But I think the Administrations attention to this matter and the GAO and EO reports recommendations highlight the need for something to be sooner rather than later.

   a. Dr. Michaels- What can Congress do to make sure that the regulatory changes recommended by the GAO and the Executive Order workgroup reports don't take 19 years to finalize and that a reasonable timeline for completion is set and met that will protect the lives of workers, surrounding communities and businesses in the chemical industry?

   b. Is there anything specifically we can do to ensure that OSHA can timely update the Process Safety Management (PSM) Standard as recommended in the GAO and EO report?

Response: OSHA's rulemaking process is extensive and is governed by a number of legal, internal, or executive order requirements. In April 2012, GAO completed a study of OSHA's rulemaking process and issued a report, "Workplace Safety and Health: Multiple Challenges Lengthen OSHA's Standard Setting." GAO concluded that many of the time-consuming steps in the promulgation of OSHA regulations are external and beyond OSHA's control. (The full text of GAO's report is found at: http://www.gao.gov/assets/590/589825.pdf.) OSHA must conduct extensive feasibility and economic analyses. The OSHA rulemaking process also contains multiple opportunities for public participation. The Presidents FY2016 Budget provides resources that OSHA needs to move through the rulemaking process for the PSM standard. It would be difficult to significantly accelerate the process for such a large and technically complex rulemaking.

OSHA has begun the rulemaking process required to update the PSM standard. We have already published a RFI and collected public comments. As we committed to in the EO Report for the President, we will convene a SBREFA panel in the summer of 2015. After the SBREFA panel, we will work towards developing a proposed rule.

5. Following the release of the GAO report, I, along with Senators Boxer, Murray and Representatives Miller and Courtney sent a letter to the President recommending 5 specific actions for the Administration to take. One of those recommendations was to update OSHA's Explosives and Blasting Agents standard to prohibit the use of wood or other combustible materials in ammonium nitrate storage.

Dr. Michaels-Shortly after we sent out letter, OSHA issued internal guidance to clarify enforcement issues related to the Explosive and Blasting Agents Standard. Can you explain exactly what was clarified, particularly anything related to the use of wood containers, for storage or ammonium nitrate?

Response: OSHA's Explosives and Blasting Agents standard (29 CFR 1910.109 (i)) addresses the storage of ammonium nitrate. OSHA issued a memorandum to the regional administrators in November 2014 to clarify its policy for enforcing section 109(i). The memorandum addresses section 109(i) paragraph by paragraph to give enforcement personnel guidance on hazards and violative conditions, as well as citation language recommendations. Since its promulgation, section 109(i) has prohibited the construction or use of untreated wooden bins for the storage of ammonium nitrate, as indicated below:

> Due to the corrosive and reactive properties of ammonium nitrate, and to avoid contamination, galvanized iron, copper, lead, and zinc shall not be used in a bin construction unless suitably protected. Aluminum bins and ***wooden bins protected against impregnation by ammonium nitrate are permissible***. The partitions dividing the ammonium nitrate storage from other products which would contaminate the ammonium nitrate shall be of tight construction.
>
> 1910.109(i)(4)(ii)(b) (emphasis added).

The memorandum gives enforcement personnel guidance on the nature of the protection from impregnation, but states clearly that untreated wooden bin construction is prohibited.

Questions from Senator Patty Murray:

1. In your testimony, you stress the importance of workers' ability to report workplace hazards. In many instances workers are the first to report a violation or hazard. Yet, recently there have been proposals to roll back whistleblower protections. The OSH Act which covers worker's protections has not been updated since it passed in 1970, and the vast majority of whistleblowers don't have the most up-to-date protections. In fact the most whistleblower complaints are covered by the OSH Act-which has the oldest and weakest protections of any whistleblower law.

   What is your agency doing to ensure workers are free from retaliation for reporting a hazards or safety concerns?
   a. If any, what steps is your agency taking to ensure whistleblower protections beyond the ones established in the OSH Act?

Response: OSHA's ability to protect workers from retaliation for exercising their rights under the Occupational Safety and Health Act is limited by the terms of section 11(c) of the OSH Act, which are not as protective as many of the newer whistleblower statutes that have longer filing deadlines, less onerous burdens of proof, and guaranteed administrative adjudication by DOL.

Despite the current statutory limitations, we have taken a number of steps to increase both workers' and employers' awareness of their rights and responsibilities under the OSH Act, and have implemented processes to ensure that whistleblower case parties receive quality investigations and timely determinations. Over the past several years, OSHA has expanded its whistleblower staff and re-organized the program, resulting in faster and better responses to whistleblower complaints.

To obtain increased public input, OSHA established the Whistleblower Protections Advisory Committee (WPAC), comprised of representatives from labor, management, and the public sector. This group meets two to three times per year to advise, consult with, and make recommendations to the Secretary of Labor and OSHA's Assistant Secretary on ways to improve the fairness, efficiency, effectiveness, and transparency of OSHA's administration of whistleblower protections.

In FY 2015, OSHA is strengthening our outreach effort, and has begun working with groups, such as OSHA's Alliance partners, to help workers understand their rights and know how to file complaints. OSHA is also collaborating with its partner enforcement agencies, such as the Federal Motor Carrier Safety Administration, to develop targeted outreach campaigns. Additionally, we will soon be launching a redesigned web page, located at www.whistleblowers.gov, to better inform the public and promote a strong worker voice in the workplace. In December of 2013, OSHA launched an online complaint form, which has enabled thousands of individuals to file a whistleblower complaint electronically.

As you know these and other limitations in the OSH Act are addressed in your legislation, the Protecting America's Workers Act (PAWA). We will continue to look for additional ways to ensure maximum protections for whistleblowers within the confines of the existing law. We owe it to all workers to provide effective recourse against retaliation for those who have the courage

to address wrongdoing or unsafe conditions to protect themselves, their co-workers, and the public at large.

2. In your testimony, you discuss potential legislative initiatives. One of those initiatives is to align the OSH Act with the Clean Air Act's Risk Management Plan, by strengthening the OSH Act's civil monetary penalties and indexing them for inflation. For the past two Congresses I have sponsored the Protecting America's Workers Act (PAWA). PAWA includes increased protections for whistleblowers, updating the protections for workers covered under the OSH Act to be in line with those protections provided to workers under more modern laws, like the Consumer Product Safety Improvement Act of 2008 and the Food Safety Modernization Act of 2010. .

   If implemented, how would the Protecting America's Workers Act align with the potential initiatives discussed in your testimony?

Response: There are several provisions of the Protecting America's Workers Act that would benefit worker safety in chemical facilities.

One example would be the improved whistleblower protection provisions in PAWA highlighted in your question. My testimony acknowledged the need for stronger, more consistent whistleblower protections. Newer whistleblower statutes provide more comprehensive protections, with better, more efficient procedural processes for workers and broader remedies for those against whom employers have retaliated. Older whistleblower laws, including OSHA's, are weaker because they do not provide adequate time for employees to file workforce retaliation complaints, lack a statutory right of appeal, lack a private right of action, and do not provide the agency the authority to issue findings and preliminary orders. With older laws, a complainant's only chance to prevail is through the Federal Government filing an action in U.S. District Court. PAWA would provide the full range of procedures and remedies available under the more modern statutes for all whistleblowers. The PAWA legislation would update the OSH Act and other older whistleblower statutes to effectuate those more modern procedures, ensuring consistency and providing workers with a greater sense of ease and protection in feeling free to report safety hazards.

The West, Texas, disaster revealed the challenges and basic problems facing many emergency responders throughout the country who have insufficient access to tactical and planning information and HAZMAT readiness to respond effectively. Most emergency responders are either public employees or volunteers. Neither public employees nor volunteers are covered by the Occupational Safety and Health Act. In the 25 States that have delegated OSHA programs, State and local government employees are covered by their state OSHA programs. However, coverage of volunteers in OSHA State-delegated programs is based on each State's individual law; some States provide no coverage for volunteers.

In the Report for the President on Executive Order 13650, OSHA pledged to work with Congress to ensure all emergency responders – whether private sector, public employees, or volunteers – receive equal coverage under workplace safety and health standards. The Protecting America's Workers Act, proposed in the previous Congress, includes language that would provide coverage

for public employees nationwide. Adding language covering volunteers would provide OSHA coverage for volunteers as well.

Finally, while most employers want to do the right thing in protecting their workers, there are those that do not place a high enough priority on worker safety. As a result, an effective deterrent is needed to ensure all workers are protected.

OSHA's PSM standard and EPA's Risk Management Program regulation were promulgated pursuant to the Clean Air Act Amendments, to address similar underlying general hazards. Yet, the OSH Act's penalty provisions are much weaker than penalty provisions under the Clean Air Act's RMP program. This imbalance in penalties should be corrected by strengthening the OSH Act's civil monetary penalties and indexing them for inflation.

For example, when a tank full of sulfuric acid exploded at the Motiva Enterprises oil refinery in Delaware, a worker at the refinery was killed. His body literally dissolved in the acid. The OSHA penalty was only $175,000. Yet, in the same incident, thousands of dead fish and crabs were discovered, allowing EPA to assess a $10 million penalty for violating the Clean Water Act.

The OSH Act limits civil penalties to not more than $70,000 for each willful/repeat violation and up to $7,000 for other serious violations. This is an extremely small amount when workers' lives are at stake. A criminal violation under the OSH Act is a misdemeanor and the penalties that can be imposed are much less than criminal fines and penalties imposed under other statutes like the Clean Water Act. As part of his 2016 Budget, the President has proposed to increase OSHA civil penalties and to adjust them for inflation.

In addition to increased civil monetary penalties, the criminal penalty provisions of the OSH Act should be strengthened to provide a credible deterrent to achieve greater compliance with workplace safety and health standards. OSHA supports the PAWA provisions for civil and criminal penalties, including the inflation adjustment specification, which would, at least, avoid the problem of inflation eroding the penalties' effect.

OSHA supports the goals of PAWA and believes that this legislation would strengthen the OSH Act by dealing with critical weaknesses in the current law and significantly increase our ability to protect America's workers in all workplaces, including chemical facilities. We look forward to working with you and other Members during the 114th Congress to address these shortcomings and other critical issues.

3. As you know, on April 2, 2010 there was an explosion and fire at the Tesoro Refinery in Anacortes, Washington. Inspectors from both state and Federal agencies found that Tesoro failed to implement its Process Safety Management (PSM) program, resulting in the death of seven workers. Since 2011, OSHA has conducted 645 inspections under the National Emphasis Program. In your testimony, you state that OSHA compliance personnel have found more than 3,100 violations of OSHA standards during the inspections, primarily in PSM. This is an alarming amount of documented violations.

What has OSHA done to follow up with these inadequate facilities to ensure something like the explosion in Washington does not happen again?

a. Is OSHA providing any technical assistance to help ensure these facilities are addressing their violations?

Response: We agree that this is an area of great concern and make efforts to ensure employers have the knowledge necessary to protect their workers. OSHA serves as a resource for employers regarding safety and health and abatement of hazards. Throughout the OSHA inspection process, especially during the closing conference, the compliance officers and their supervisors discuss the apparent violations, abatement measures, and abatement dates with each employer. After the citations are issued, depending of the employer's interest, local OSHA offices will continue to discuss the violations and abating the conditions. Ultimately, it is up to the employer to determine the specific abatement techniques that it will implement. If the employer does not contest the citation, it must certify that is has abated the violation as scheduled and provide documentation of its abatement actions. OSHA has the right to conduct follow-up inspections to confirm that the violation has been abated. If it remains uncorrected, penalties of up to $7,000 for each day can be imposed for each violation that remains uncorrected. OSHA also assists employers in abating PSM related hazards through guidance, local outreach, information on its web site (including e-tools on certain topics), and cooperative programs. Small employers may also take advantage of OSHA's free consultation services through the on-site Consultation Program.

Questions from Senator Michael B. Enzi:

1. The "Action to Improve Chemical Facility Safety and Security" report included discussion on information sharing among stakeholders in the New York/New Jersey pilot program. Can you clarify how information sharing will be structured going forward, and what specific types of data will be shared with Federal, state, tribal, regional, local, and other stakeholders?

Response: The pilot facilitated a better understanding of the information needs of first responders and communities before and during a chemical release. Standard Operating Procedures (SOPs) have been established to develop and disseminate best practices on sharing EPRCA Tier II and other critical information to first responders. Procedures are also being developed and distributed to encourage stakeholders to take advantage of existing drills and exercise opportunities to support and test existing LEPC contingency plans. Over the next 9 months, the Regional Working Groups established under the EO will use the Region 2 pilot SOPs as a model to tailor appropriate SOPs for their Regions, including the process and scope for sharing information with stakeholders. For further information about implementation of the pilot, please see:
http://www.nrt.org/production/nrt/RRTHomeResources.nsf/resources/RRT4Oct2014Meeting_1/$File/Eric_Mosher_1_EO_13650_Pilot-RRT4_Oct_2014.pdf

2. The Chemical Safety Board has been helpful in identifying the cause of accidents at chemical facilities. What role do you see going forward for the Chemical Safety Board recommendations from accident investigations should be formally communicated to relevant industrial facilities, for example those that have similar products or processes?
    a. Is it your view that Chemical Safety Board recommendations from accident investigation's should be formally communicated to relevant industrial facilities, for example those that have similar products or processes?
    b. Would you support Chemical Safety Board recommendations also being formally communicated to local emergency planners and responders that might benefit form reviewing such recommendations?

Response: The Chemical Safety Board's (CSB) primary function is to investigate chemical incidents, determine the root and contributing causes, and make recommendations to prevent similar incidents from occurring. Failures in emergency preparedness are often contributing causes of injuries and illnesses. OSHA supports CSB formally communicating recommendations to both relevant facilities and local emergency responders and planners.

3. OSHA has indicated in its Request for Information on Executive Order 13650 that it is considering revising the safe storage rules for ammonium nitrate, or expanding the Process Safety Management (PSM) program to include ammonium nitrate, or some combination. However, there does not seem to be an incident involving accidental detonation of ammonium nitrate where a facility was in compliance with the existing standard. Will imposing new regulations under either of the aforementioned options help identity facilities that might be non-compliant?

Response: OSHA uses a combination of techniques to target its enforcement where there are likely to be problems. OSHA uses emphasis programs, local knowledge, employer databases, interagency referrals, and other techniques to identify regulated facilities that may be in violation of OSHA standards. However, having up-to-date standards is also important because they educate industry in safe work practices.

OSHA is considering regulatory revisions to improve ammonium nitrate safety by incorporating more recent industry best practices. These regulatory changes could include ensuring compliance with recognized safety practices through updates to the OSHA Explosives and Blasting Agents Rule, or the Recognized and Generally Acceptable Good Engineering Practice requirement of PSM.

4. OSHA has indicated that it is inclined to pursue the option to expand the PSM program to include ammonium nitrate because it will take fewer resources than it would to amend 29 CFR 1910.109(i). What is the reasoning for the decision?

Response: OSHA is still considering changes to either 29 CFR 1910.109(i) or PSM. We are in the process of determining which of these standards would be most effective in addressing ammonium nitrate hazards and will make a decision after we more thoroughly consider the effectiveness and feasibility of both options, as well as public comment.

5. Some stakeholders believe that the hazard analysis required by PSM will result in facilities adopting standards consistent with existing regulations at 1910.109(i). Given this, shouldn't OSHA simply focus on enhancement and enforcement of its existing regulations?

Response: The PSM standard has been effective in improving chemical safety processes and protecting workers. However, major incidents, such as those in West and Laporte, Texas have continued to occur. These incidents illustrate that workers, volunteers, and community members are not adequately protected and that more needs to be done. As part of the regulatory process, OSHA is considering all options to provide the best protection for workers and communities.

6. Stakeholders have indicated that, of the regulatory options proposed, they would prefer revision of 1910.109(i). 1910.109(i) is based on a NFPA ammonium nitrate safety standard. NFPA is expected to release its latest update of this standard next year. Wouldn't a better course of action be to take advantage of NFPA's consensus standards to advance ammonium nitrate safety?

Response: OSHA has collected comments from stakeholders who have expressed a variety of opinions of how best to ensure ammonium nitrate safety. As part of the regulatory process, OSHA is considering all options to provide the best protection for workers and communities. OSHA will also consider any relevant NFPA or other consensus standards in determining the best course for addressing ammonium nitrate hazards.

Questions from Senator Orrin G. Hatch:

1. OSHA has determined in two separate rulemaking action (1993 and 2007) that blasting agent manufacturing is not the type of activity that OSHA's Process Safety Management (PSM) process is intended to address. If OSHA adds one or any specific raw material used in blasting agent manufacturing to PSM, how will OSHA exempt blasting agent manufacturing from coverage?

Response: The PSM standard currently covers:

- highly hazardous chemicals that are listed in Appendix A of the standard or are classified as flammables liquids or gasses as defined in 29 CFR 1910.119 (a)(1)(ii), and present in specified quantities.
- the manufacture, keeping, having, storage, sale, transportation, and use of explosives and pyrotechnics as specified in 29 CFR 1910.109(k)(2) and (k)(3). The transportation of explosives and pyrotechnics is also regulated by the Hazardous Materials Regulations (HMR, 49 C.F.R., Parts 171-180)

OSHA is considering adding specific substances, such as ammonium nitrate, to the list of Appendix A chemicals. If OSHA adds a specific substance to Appendix A, the standard would apply only to that substance. We are not currently considering adding coverage of blasting agents as a category of covered substances.

2. OSHA's Request for Information on the Process Safety Management (PSM) program indicated that the agency is considering the expansion of PSM to include ammonium nitrate. Why is the regulatory path of PSM being sought over revised consensus standards [29 CFR 1910.109(i)] when Federal law (P.L. 104-113) requires agencies to use voluntary consensus standards?

Response: OSHA is considering changes to either 29 CFR 1910.109(i) or PSM. We are in the process of determining which of these standards would be most effective in protecting workers from hazards associated with ammonium nitrate and will make a decision after we more thoroughly consider the safety impact and feasibility of both options. OSHA also takes voluntary consensus standards into consideration when determining the most appropriate standard.

Questions from Senator Pat Roberts:

1. As you are aware, in 2003 the Small Business Advocacy Review Panel published a draft report for OSHA's Standard for Silica. The recommendation of the panel was not to move forward with stricter regulations, but to simply enforce those mandates already in place to ensure compliance. What steps has OSHA taken to improve outreach and enforcement of the current regulation?
    a. Why, eleven years later when OSHA has proposed a similar rule, haven't they engaged a new review panel for recommendations?

Response: OSHA vigorously enforces the current Permissible Exposure Limits (PELs) for silica and has initiated other efforts to work with industry to meet the current requirements. In January of 2008, the Agency implemented a National Emphasis Program (NEP) to identify and reduce or eliminate the health hazards associated with occupational exposure to crystalline silica. The NEP targets worksites with elevated exposures to crystalline silica. The NEP also includes program evaluation procedures designed to ensure that the goals of the NEP are measured as accurately as possible, detailed procedures for conducting inspections, updated information for selecting sites for inspection, development of outreach programs by each Regional and Area Office emphasizing the formation of voluntary partnerships to share information, and guidance on calculating PELs in construction and shipyards.

However, OSHA's current PELs for silica, which were adopted in 1971, are antiquated and the available evidence indicates that they do not adequately protect worker health. For example, OSHA's peer reviewed preliminary risk assessment indicates that employees exposed to respirable crystalline silica well below the current general industry PEL are at increased risk of dying of lung cancer or silicosis. Occupational exposures to respirable crystalline silica also may result in the development of kidney and autoimmune diseases and in death from other nonmalignant respiratory diseases, including chronic obstructive pulmonary disease (COPD). And, OSHA's preliminary risk assessment suggests that risks are even higher at the PEL for construction and shipyards, which is over twice as high as the current general industry PEL. Consequently, OSHA has preliminarily concluded that simply enforcing the current PELs will not substantially reduce or eliminate this significant risk.

OSHA conducted the SBREFA review early in the rulemaking process to be able to gather information about small business concerns in order to address those concerns in development of the proposal. The Agency utilized information gathered during the SBREFA review to make significant changes to the proposed rule itself, as well as to the cost, impact, and other analyses contained in the proposal. OSHA's proposal contains six pages of tables that include every recommendation from the Small Business Advocacy Review Panel, along with the Agency's responses. In addition, OSHA reviewed and updated the data included in the Preliminary Initial Regulatory Flexibility Analysis prior to the time the analysis was submitted to OIRA for review in 2011. OSHA will consider this updated data, along with more recent data submitted to the rulemaking record by small businesses and other stakeholders, and will base its final decision on all the data in the record.

It is also important to note that the SBREFA process was only the first of many opportunities for small businesses to offer comments on the proposal. Small entities from all affected industries, their associations, and representatives from the Small Business Administration were invited to provide written comments and to participate in the recent public hearings on the proposed silica rule; many of them did. And, following the hearings, stakeholders were again invited to submit comments and data for the Agency to consider. OSHA believes that the record of the comments received to date and the transcript of the hearings show that the major issues with respect to technological feasibility, costs, economic feasibility, and possible alternatives to the proposed rule represent largely the same issues that the Panel addressed in 2003. We are confident that commenters from industry, including small entities, were able to express their concerns about any possible new issues resulting from the recent and current economic conditions under which they were operating during the extensive comment period and public hearings. OSHA will carefully consider all of the comments and data submitted by small businesses, along with all the other evidence received into the record, before making a final decision on this rulemaking.

Senator BOXER. Thank you, Mr. Michaels.

Mr. STANISLAUS.

STATEMENT OF MATHY STANISLAUS, ASSISTANT ADMINISTRATOR, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. STANISLAUS. Good morning, Chairman Boxer, Chairman Casey and members of the committee.

I am Mathy Stanislaus, Assistant Administrator of the U.S. Environmental Protection Agency's Office of Solid Waste and Emergency Response.

I thank you for the opportunity to testify today on our urgent efforts to implement the commitments made in the May 2014 report to the President, Actions to Improve Chemical Safety and Security, A Shared Commitment.

This Administration recognizes the terrible loss suffered by families and communities as a result of chemical accidents and releases and we are committed to working collaboratively with first responders, facility owners, operators, State, local and tribal partners and organizations and associations with an interest in improving chemical facility safety and security.

The Administration also recognizes the importance of immediate action and the important role safe chemical manufacturing plays in the United States.

In the aftermath of the tragic West, Texas facility explosion, the President issued an Executive. The Executive Order, as the Chairman recognized, established a Working Group chaired by EPA, OSHA and the Department of Homeland Security to improve chemical safety and security in coordination with all stakeholders. We continue a broad outreach effort. Since the Executive Order and the report to the President were issued, we have met with hundreds of stakeholders representing local communities, local responders, emergency planners, State and tribal officials and industry sector officials.

We know that handling the storage of chemicals presents safety and security risks. Events from the past few years have resulted in far too many injuries and deaths. Prevention and preparedness is an ongoing and evolving process. No one action can effectively address chemical safety. We have to address chemical safety in a comprehensive, multifold series of actions.

I have walked both sides of chemical facilities. I have talked to communities adjacent to chemical facilities. I am convinced a significant, primary focus needs to be getting critical facility information into the hands of the people who need it most, local emergency planners and first responders to help them use that information in a way that effectively addresses risk by the facility, undertake prevention activities, undertake response planning activities to effectively respond to chemical facilities.

We need to ensure the local citizens, who talked to me repeatedly around the Country, who need to be engaged in the local process to ensure that they are effectively notified to participate in the planning process and that they have full understanding of evacuation capabilities and where sheltering in place is necessary that they are fully informed and participate in the process.

Local communities are at the front line of chemical plant safety and they need our help. Again, we are actively engaged with all the local responders and local communities with a focus on getting them information and enhancing the tools and information so they can lead the development of emergency response plans which is a central piece of the Emergency Planning and Community Right to Know Act.

In addition, we stood up immediately after the Executive Order a pilot program bringing together local officials, emergency planners and first responders from State and local governments to identify what specific actions can be done on the ground to improve safety.

We have identified a number of actions where we have moved forward and operationalized already. It includes sharing facility information to inform local emergency planning and identifying important chemical facility points of contact to support effective local emergency response planning.

We have worked with the Department of Homeland Security to ensure that we identify non-compliers. We have identified non-compliers and are aggressively moving forward to ensure they provide us with process hazard analysis and identify all the prevention and response measures necessary to make sure those facilities are protected.

We have issued a Request for Information which is a commitment we made to the President to look at various components of enhancing and building upon the successes of RMP regulation. RMP regulation has not been reviewed for multiple decades. Obviously we are aligning especially with OSHA. We have joint responsibility to protect workers and communities.

We know from our experience with the Risk Management and Planning Program that safety of chemical plants requires a comprehensive approach. A number of the things we identified in the Request for Information include things like prevention activities which look at, for example, process upsets and near misses, widely recognized as the single most important thing to prevent catastrophic events.

We are looking at safer opportunities in chemical plants and mechanical integrity of safety-related equipment to prevent offsite impacts.

Madam Chairman, I look forward to your questions.

[The prepared statement of Mr. Stanislaus follows:]

TESTIMONY OF MATHY STANISLAUS

ASSISTANT ADMINISTRATOR

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

AND THE COMMITTEE ON HEALTH, EDUCATION, LABOR AND PENSIONS

UNITED STATES SENATE

December 11, 2014

Good morning Chairman Boxer, Chairman Casey and members of the Committees, I am Mathy Stanislaus, Assistant Administrator for the U.S Environmental Protection Agency's Office of Solid Waste and Emergency Response. Thank you for the opportunity to testify today on efforts to implement the commitments made in the May 2014 Report for the President, *Actions to Improve Chemical Safety and Security – A Shared Commitment*. This Administration recognizes the terrible loss suffered by families and communities as a result of chemical accidents and releases and we are committed to working collaboratively with first responders, facility owners and operators, state, local and tribal partners and organizations and associations with an interest in improving chemical facility safety and security.

In the aftermath of the tragic West, Texas facility explosion, the President issued Executive Order 13650 - *Improving Chemical Facility Safety and Security* on August 1, 2013. The EO directed the Department of Homeland Security (DHS), the Environmental Protection Agency (EPA), the Department of Labor (DOL), the Department of Justice (DOJ), the Department of

Agriculture (USDA), and the Department of Transportation (DOT) to establish a Chemical Facility Safety and Security Working Group to improve chemical facility safety and security in coordination with a broad cross-section of stakeholders including: state regulators; state, local, and tribal emergency responders; chemical facility owners and operators; and local and tribal communities. The Report for the President summarizing Working Group progress, findings and lessons learned, and priority next steps is available at: www.osha.gov/chemicalexecutiveorder/.

The chemical release at the DuPont facility in La Porte, Texas on November 15th of this year that resulted in the deaths of four employees, serves as a tragic reminder that we must remain committed to working with a broad range of stakeholders to continue improving chemical facility safety and security. It also motivates us to continue an aggressive pace as we move forward in implementing the federal Working Group Action Plan. My testimony provides a brief overview of the wide-ranging actions underway and those that have already been completed as we work together in partnership with all levels of government, emergency planners, first responders and industry to work to prevent, prepare for, and respond to chemical emergencies.

One of the initial actions taken to improve chemical facility safety focused on addressing concerns related to the storage of ammonium nitrate and compliance with federal regulations. On August 30, 2013, the EPA, the Occupational Safety and Health Administration (OSHA), and the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) released a chemical advisory that provides information to communities, workers, first responders and commercial sectors on the hazards of ammonium nitrate storage, handling, and management. To further bolster these efforts, in February 2014, Assistant Secretary of Labor for Occupational Safety and Health, Dr. David Michaels, signed a letter that was circulated by agricultural trade associations to provide

more than 7,000 employers with legal requirements and best practice recommendations for safely storing and handling ammonium nitrate.

Outreach Efforts and Incorporating Stakeholder Feedback

Stakeholder feedback and public comment have been, and will continue to be, crucial to implementation of the Executive Order and the Working Group Action Plan. It is the local perspective – community residents, state and local responders and preparedness officials working with local facility managers – who are critical to ongoing safety at chemical facilities. As described in the Report for the President, the Working Group gained valuable insights from people who have worked at facilities, lived near them, and contributed to their community's emergency planning and preparedness. As part of the Working Group effort to engage with stakeholders, 12 public listening sessions were held throughout the country to solicit comments, best practices, and suggestions from stakeholders. More than 1,000 individuals attended the listening sessions and more than 800 additional people participated by conference call. Participants representing more than 25 states provided input into the EO process.

The Working Group heard concerns from local and tribal responders and community members about the accessibility of information. We heard about the challenges of managing all of the information provided under the various laws/regulations, the difficulty in understanding how each chemical is regulated, and how to properly respond to an emergency involving specific chemicals. Community members stated they were unaware of potential hazards prior to an emergency and voiced concerns about errors in communication post-response about when it is "safe" to move back home and use local resources, such as drinking water. States also attested to

the need to share information with the community while still balancing what information could be revealed to the general public.

First responders and Local Emergency Planning Committees (LEPCs) face a dual challenge of planning and communicating with facilities to properly prepare for emergencies, and with communities to inform residents of potential dangers, what to do in an emergency, and when to declare an area safe after an emergency. LEPCs need to identify the location of key receptors (e.g., schools, parks, and water intakes) which could be affected by chemical releases from nearby facilities, and plan for appropriate emergency response.

There are also areas where industry and the response community share common concerns. Industry representatives acknowledged that communications with LEPCs and first responders are critical to proper preparedness in the community and that the federal government should assist in education, outreach, and training. LEPCs, first responders, and facility representatives reported inconsistent participation in LEPCs and in communications with first responders. Industry encouraged the Working Group to clarify roles and responsibilities between agencies, strengthen enforcement, and develop guidance to assist facilities to navigate and comply with the myriad of regulations. Most labor organizations and individual workers support modernizing and clarifying process safety regulations as well. Further, industry encouraged the Working Group to develop innovative ways to leverage existing industry association programs to increase chemical facility safety and security. Additional information regarding the listening sessions is available on the Working Group's website cited earlier.

The Working Group continues to actively incorporate community feedback into our efforts when possible. Since the August 2013 Executive Order was issued, we have engaged in more than 70

meetings and events across the country involving more than 4,000 members of state and local governments, community leaders, first responders and industry sectors. The most recent webinar was conducted on November 10, 2014, with more than 300 participants and an additional 400 participants via phone.

In a series of workshops conducted in five states located in EPA Region 6, local community residents, along with environmental and other public interest organizations repeated concerns about understanding chemical facility information. During the workshops, two of the most common issues raised by local officials regarding areas where state and federal agencies can provide support were: (1) helping to ensure that local responders have both information on chemicals present at an incident, as well as the properties, hazards, and response actions for those chemicals; and (2) the need to work with local and industry officials to ensure responders are appropriately trained to respond to chemical incidents.

Based upon input from public listening sessions, meetings with stakeholder groups, webinars, and feedback submitted to the federal departments and agencies, the EPA is addressing actions and commitments in the Report for the President to support local planning, preparedness, communications, and response and to improve stakeholder coordination.

Strengthening Community Planning and Preparedness

As noted throughout the Working Group's consultation with stakeholders, effective emergency planning occurs at the state and local level, with State Emergency Response Commissions (SERCs), LEPCs, and Tribal Emergency Response Commissions (TERCs) and Tribal Emergency Planning Committees (TEPCs) providing a formal prevention and preparedness engagement structure. Strong working relationships between stakeholders such as facility

owners and operators, state, local, tribal partners, emergency planners and responders, and communities, is a necessary part of this structure and helps support coordinated chemical facility safety and security efforts.

In implementing their responsibilities, LEPCs and TECPs are challenged by limited resources. The EPA's resources provide support for local communities through the development of tools and technical support. The FY 2015 President's Budget requesested additional resources to support state and local prevention and preparedness efforts. This would include piloting a grant program to assist local planners and first responders to facilitate the use of risk information to plan for all potential chemical risks from the facility, to work and maintain a dialogue with the facilities to reduce the risks, and to communicate to the public what to do if an accident occurs.

To address the needs identified by LEPCs and SERCs, the EPA is taking a number of steps to strengthen and further support the state and local infrastructure and ensure stakeholder involvement in the process. The EPA held 32 workshops for LEPCs throughout Texas, Arkansas, Louisiana, Oklahoma, and New Mexico to reinforce their authorities, roles, and responsibilities under the Emergency Planning and Community Right to Know Act (EPCRA) and identify barriers to meeting their requirement for developing and implementing a local emergency response plan. These workshops were well received and attended by 1,340 representatives of local, state, and federal government, as well as industry. A report which addresses lessons learned will be shared with other regions and states.

Another issue consistently raised by SERCs and LEPCs was the need for training. The EPA is moving forward on developing online EPCRA training modules for SERCs/TERCs and LEPCs/TEPCs. This training is intended to reinforce their authorities and roles to meet their

responsibilities under EPCRA for the development and implementation of local emergency response plans, and is on schedule for completion by June 6, 2015. In addition, EPA is working to update, and revise as necessary, planning and response guidance materials for SERCs and LEPCs. This will help ensure SERCs/TERCs and LEPCs/TEPCs have the latest information in a format that allows them to share and exchange among themselves and with other organizations and stakeholders.

In order to respond to requests from SERCs and TERCs for assistance in clarifying EPCRA responsibilities to support emergency preparedness and planning efforts, the EPA is also developing factsheets for SERCs/TERCs and LEPCs/TEPCs and industry to assist them in understanding and meeting their responsibilities under EPCRA. Further, the EPA established an email list-serve to provide monthly Working Group updates to SERCs/TERCs to keep them informed about upcoming conference/meetings, new guidance and other materials, and other EO-related information they will be receiving.

The EPA continues to upgrade its Computer-Aided Management of Emergency Operations (CAMEO) suite of applications, available online to emergency planners, first responders, and the general public. These upgrades will help emergency planners and first responders to access, store, and evaluate critical chemical facility and multi-agency regulatory data and information for developing emergency plans. Additional enhancements to CAMEO will expand analytical capability for LEPCs/TEPCs and promote information sharing. These enhancements include: ensuring that emergency planners and first responders have chemical and regulatory information on all Chemical Facility Anti-Terrorism Standard (CFATS) regulated facilities; adding new data fields to ensure that LEPCs integrate all available chemical facility information into their local CAMEO database, and developing and providing a complete web-based version of CAMEO that

states can host on their own servers. This allows LEPCs an online method of accessing the state Tier II facility/chemical data and allows facilities to report online.

Enhancing Federal Operational Coordination

Addressing chemical safety is a shared commitment. Federal, state, local, tribal, and territorial governments, regional entities, industry, non-profit organizations, and communities all comprise important stakeholders. Communicating and coordinating across this diverse landscape requires an integrated effort to ensure activities are executed effectively and efficiently. To facilitate this, the Working Group, working with existing structures, established a process for sustaining stakeholder coordination, including the establishment of a Chemical Facility Safety and Security National Working Group and Chemical Facility Safety and Security Regional Working Groups co-chaired by the EPA, DOL, DHS supported by the National Response Team and Regional Response Teams (NRT/RRTs). These groups are coordinating closely with Government Coordinating Councils (GCCs) and Sector Coordinating Councils (SCCs) from a variety of sectors.

One of the main accomplishments of the Chemical Facility Safety and Security National Working Group and Chemical Facility Safety and Security Regional Working Groups is the development and ongoing implementation of Standard Operating Procedures (SOPs) at the regional level to unify and improve operational coordination among federal, state, tribal, and local governments for identifying, communicating, and responding to risks at chemical facilities. In August of 2013, a pilot program was launched in New York and New Jersey to evaluate best practices and test innovative methods for interagency collaboration on chemical facility safety and security. The pilot program brought together all levels of government with the first

responder community, along with other stakeholders to identify actions for improving chemical facility safety and security. The discussions and work conducted have led to coordinated work in the field and the sharing of critical information and data. The resulting SOPs and lessons learned from the pilot program have helped to advance chemical safety. Specifically, the pilot enhanced areas of risk management by increasing local access to high-risk facility information to support more effective emergency planning and response; improving the sharing of inspection information to inform LEPC emergency planning; and identifying chemical facility points of contact to support local emergency response. Additionally, the pilot facilitated a better understanding of the information needs of first responders and communities before and during a chemical release, and SOPs have been established to develop and share best practices on sharing EPRCA Tier II and other critical information to first responders, and developing procedures to take advantage of existing drills and exercise opportunities to support and test existing LEPC contingency plans.

Improving Data Management

Federal agencies collect important information to address chemical facility safety and security. However, as multiple regulatory programs evolved over several decades, incorporated technologies and data collection requirements developed independently of one another. This has led to varying formats and management of the data which do not fully support interagency compliance analysis. In order to improve data sharing among federal departments and agencies used to identify potentially noncompliant facilities, the EPA and DHS adopted new procedures to identify facilities that, based on their required filings, could possess threshold levels of CFATS Chemicals of Interest but have not yet filed required Top-Screen information with DHS or a required Risk Management Plan (RMP) with EPA.

Another key step to assist federal departments and agencies in identifying non-compliant facilities and/or other potential compliance issues is linking data from multiple agencies. The EPA's Facility Registry Service (FRS) integrates facility data from nearly 90 different federal and state systems, allowing users to compare facilities between systems, including chemical data and compliance history. The FRS has been updated to include facilities that complete a DHS Top-Screen submission for CFATS, which allows federal departments and agencies to identify: (1) facilities that are covered by multiple federal regulatory entities, and (2) potentially non-compliant facilities, often referred to as outliers.

Additionally, the EPA's Substance Registry Services (SRS) assists facilities housing chemical substances to determine their regulatory requirements by providing information about chemical substances tracked or regulated by the EPA or other sources. The SRS has been updated to include CFATS and Process Safety Management (PSM)-covered substances, which allows facilities to be informed about potential regulatory coverage under PSM and CFATS in addition to other EPA regulatory programs.

DHS and EPA also initiated a process to compare the CFATS 'Top Screen' database and the RMP database to determine if the CFATS database included facilities that should have also reported under the RMP chemical accident prevention program. As a result of this effort, the EPA contacted hundreds of facilities to request information and visited some facilities to help determine whether the facility meets criteria to implement a risk management program requiring submittal of a risk management plan. Following this extensive review, only 13 non-filing facilities were identified, indicating that the vast majority of covered facilities are reporting under the RMP program.

Modernizing Policies and Regulations

The RMP regulation has been effective in helping to prevent and mitigate chemical facility incidents in the United States and protecting human health and the environment from chemical risks and hazards. However, major incidents highlight the importance of reviewing and evaluating current practices and regulatory requirements and applying lessons learned to continuously advance process safety management. In order to gather the information necessary to proceed with regulatory modernization of RMP and retain close coordination with OSHA on its implementation of the PSM standard, the EPA published a Request for Information (RFI) on July 29, 2014. The RFI sought public input on 19 process safety and risk management issues relevant to the RMP regulations. The public comment period closed on October 29, 2014, and the EPA is reviewing nearly 100,000 comments received.

Guidance and outreach programs to help industry understand process safety and security requirements and best practices are an integral part of the comprehensive approach to chemical facility safety and security. Along these lines, the agency continues to meet with industry and industry associations to discuss how they can assist in ensuring that facilities meet their responsibilities under EPCRA and comply with EPCRA and RMP regulations. Additionally, the EPA is working with trade associations to provide their members with chemical safety information and to share best practices.

Conclusion

The EPA and the Working Group will continue to work toward improving chemical facility safety and security with a focus on assisting local communities. In addition, the EPA will continue to help ensure that facilities handling hazardous chemicals take actions to help prevent

chemical accidents, and also serve as a catalyst so that facilities, first responders, emergency planners, state and local governments and communities work together to prepare for and respond to chemical facility releases. EPA will continue to provide Congressional and public updates regarding further progress on our efforts to improve chemical facility safety.

Senator BOXER. I am sorry to rush you. I need to go and Senator Murphy also. That is why Senator Barrasso had to leave, Senator Markey and myself. You may be relieved with that.

Let me just say for my questions and then I am going to hand the gavel to Senator Casey, could you hold up that chart again?

We know that out of all the Executive Orders, only four have been completed and those have nothing to do with any changes at the plants. As a matter of fact, a plant like West is not required to do any new or different and the only things that got done were things the agency is doing.

I value your work and I honor your work but this is unacceptable. If you look at the number of days since the West, Texas explosion, every other day, essentially, there was an accident. This is absolutely outrageous. This happened in 2013 and all we have going here are a few things you are doing interagency.

I am asking you, Assistant Administrator Stanislaus, and Assistant Secretary Michaels, on what date do you commit to completing all of the Executive Order directives within your agencies' jurisdiction? Give me a date and give me a timeframe of when. I would ask Mr. Michaels first?

Mr. MICHAELS. Chairman Boxer, our regulatory system, speaking from OSHA's point of view, is broken. I cannot tell you when we will be able to finish the update of the Process Safety and Management standard.

Senator BOXER. Wait a minute. The President issued an Executive Order with deadlines. If you are ignoring that, then you are not following the law. If you are broken, that is a whole other problem.

I am asking you what is your goal for finishing this list that you have to finish? Will it be before President Obama leaves office, will it be done by then?

Mr. MICHAELS. Certainly there are many components. We are on target to meet our deadlines within the system.

Senator BOXER. I don't know what the heck your deadlines are. I need it in writing. What are your deadlines?

What about you, Mr. Stanislaus? Can you commit to finish what the President ordered you to do?

Mr. STANISLAUS. Absolutely.

Senator BOXER. When?

Mr. STANISLAUS. In the report to the President, we identified a number of very specific milestones. We have specific milestones and we are on track on every single item on that list with respect to moving forward on guidance, working with local responders and providing tools to local responders.

Senator BOXER. I don't want to hear all this. I know what your goals are. When are you going to do it? You had a year's worth of meetings in order to figure out what questions you are going to ask the public. You haven't even proposed regulations. When are you going to propose the regulations?

Mr. STANISLAUS. We are going to propose regulations next year. Our plan is to finalize it in 2016.

Senator BOXER. Early next year?

Mr. STANISLAUS. I will get back with the specific date.

Senator BOXER. Get that to me.

Mr. STANISLAUS. We committed in the report to the President to finalize regulations by the end of this Administration.

Senator BOXER. OK. Will EPA commit to address ammonium nitrate fertilizer hazards under its Risk Management Plan and when are you planning to do that?

Mr. STANISLAUS. Ammonium nitrate is one of the items that we identified in the Request for Information. We are evaluating those comments in terms of whether the best approach to address safety is the Risk Management Planning Program or looking at OSHA's efforts.

Senator BOXER. Have you even decided whether ammonium nitrate will be included?

Mr. STANISLAUS. We have not.

Senator BOXER. Why wouldn't you know that is a no-brainer?

Mr. STANISLAUS. Again, we have received lots of comments in terms of the best approach. I think we have a shared commitment to increase the safety of ammonium nitrate. We are looking at the best regulatory approach in addition to complement all the other efforts.

Senator BOXER. Let me just say, you are so concerned, I am not talking about you but the agency. It is only OSHA that at least has updated and put on their website how you are supposed to handle it. You have done virtually nothing on this point.

Ammonium nitrate is so dangerous. If you are dealing with it, as West, Texas is, they haven't been asked to do one thing different.

Speaking for myself, I certainly don't speak for Senator Vitter or Senator Barrasso and they don't speak for me, as one Senator, my colleague said how important the chemical industry is in his State. Yes, the chemical industry is extremely important. Let me tell you so are the people.

We have to protect the people if there are problems and we know there are problems because they keep happening. People are dying and going to the hospital. Millions of kids live near these facilities. Ten million are living in two hazardous zones. One in three is living around one hazardous zone. This is serious business.

I am going to hold you to those letters I asked you for. I will share them with colleagues. When you opened, you said, we have such a sense of urgency. I don't see it. There is a lot of talk and there is not any action, except for working between the agencies which is great but on the ground, if I had a kid who lived in that hazard zone, I would be pulling my hair out right now if I was watching this. Take it from me, that is how I feel.

I turn to my colleague, Senator Vitter, and I will turn the gavel over to Senator Casey.

Senator VITTER. I am going to pass for now and allow other members to ask questions.

Senator CASEY.

[Presiding] We want to thank Senator Boxer and others who are juggling very difficult schedules on these last days we will be in session.

I am grateful for her leadership on this issue and grateful for her sense of urgency because I think that is shared by all of us. I know everyone in the room has a concern about this but it does get frustrating when people have a sense that the Federal Government has

a goal but is not moving at the pace at which taxpayers and certainly families that will be affected by these issues expect us to.

I am going to be here for a while. I arrived late with all of the juggling of schedules. We are going to try to make sure that every member who is here and some may be returning has a chance to either do an opening and questions or just questions.

I think Senator Franken was one of the early arrivals. He has some questions and I will turn to him and we will go from there.

Senator Franken.

Senator FRANKEN. Thank you, Mr. Chairman.

In 2011, OSHA implemented the National Emphasis Program that prioritizes inspection of facilities where workers handle highly hazardous material and yet we have had tragedies like the recent loss of life at the DuPont chemical plant in La Porte, Texas.

These incidents aren't limited to Texas; they are a national problem. It is important that we get this right and protect workers.

I guess my question to you, Mr. Michaels, is, in your opinion, what single action by OSHA would help most in preventing the next chemical incident that kills someone?

Mr. MICHAELS. There obviously are many things we would like to see happen but I think one of the primary issues that holds us back from protecting workers and encouraging employers to do the right thing is our lack of being a credible deterrent because of our weak penalty structure.

The maximum penalty for an OSHA violation, a serious violation, is $7,000. A willful or repeated violation is $70,000. To a small company, that is a significant deterrent but to large employers, especially petrochemical plants, that is not even the cost of doing business.

Our criminal penalties are virtually meaningless. Under the OSHA Act, if a worker is killed n association with a willful violation, it is a misdemeanor with a maximum 6 months in jail against the corporation, rarely against a person. If a worker isn't killed, there is no criminal penalty.

Let me give you an example of the problem we face. A number of years ago, there was an explosion at a Delaware oil refinery owned by Motiva which is half owned by Shell, half owned by Saudi Aramco, a big company.

Jeff Davis was a worker there. There was explosion with sulfuric acid and his body was virtually decomposed. We went in there and issued a $175,000 fine, a very small fine. EPA followed us because there were fish and crabs that were killed and they issued a $10 million fine.

Can you imagine telling Jeff Davis' wife, Mary, and their five kids that the fine for the hazards associated with his death was one-fiftieth of the fine associated with killing fish and crabs?

We would be very grateful if Congress would allow us to issue penalties at a much higher level because we think that would deter employers from allowing these hazards to exist because right now our penalty structure isn't effective.

Senator FRANKEN. That is very interesting. There is no real deterrent because at the most, it is a slap on the wrist and the highest fines are negligible. May be we should adjust this to the size

of the operation or something like that or to have some flexibility there.

You talked about Delaware. We have heard about recent incidents in Texas, the BP refinery in Texas City, the West fertilizer company in West, Texas which killed 15 people, I believe, and recently the DuPont chemical plant which killed four and two brothers.

I would like to know what allowed these unsafe working conditions to persist. Is the fact we are seeing multiple incidents in Texas an anomaly or are there other factors specific to Texas such as a more relaxed State regulatory environment that has led to these tragedies?

Mr. STANISLAUS. I can't say that I can answer that specific question. We have not done a State by State analysis.

One of the critical items that was identified as we went to listening sessions around the Country was information and tools for local responders so local responders could identify the risk, whether it be a school—are they at risk of an explosion and the various actions necessary to protect them.

It is a national issue. That is one the things we have aggressively done, providing, for example, some modeling which allows local response officials to identify where a potential plume, where an accident occurs, what is the spread of that and various actions to prevent risk to those communities.

Senator FRANKEN. I am out of time but if you will indulge me, Mr. Chairman, I just want to follow-up on this issue of OSHA regulations and other regulations as administered by States.

Are there differences between State OSHA regulations such that we see so many of these happening in Texas? Should we be focused on differences in the way States do their OSHA work?

Mr. MICHAELS. The answer is, yes, we should be very much focused on those differences. Texas actually is a Federal State so for worker protection, OSHA is responsible though it is noted that Texas is one of the very few States that does not have a mandatory workers compensation program.

One of the options employers have is to actually not get workers compensation insurance and I think in some cases, as a result of that, they have riskier workplaces. Louisiana and Texas, these are the States at the heart of the petrochemical industry. I think that is the primary issue we are talking about.

There are 21 States that have their own State plans, including Minnesota. OSHA is responsible to make sure that those programs are at least as effective as Federal OSHA. We have a lot of mechanisms to do that. We have some States which I think do a far better job than others and that is of great concern.

The specifics we are talking about here, I don't think that is an issue because in Texas that is simply a Federal State. State law has very little obligation around worker safety. That is not the case with EPA, however.

Senator FRANKEN. Thank you.

Thank you, Mr. Chairman.

Senator CASEY. Thank you, Senator Franken.

I want to thank our witnesses. I will have a few questions in a moment but I do want to put my statement in the record. I will

do this as quickly as I can so we can get back to questions and then we will have other members who were here that may be returning or other members who may be here over the course of the next 45 minutes or so depending on voting.

First, I want to recall what has been recalled a couple of times this morning, what happened April 17, 2013. Thirty tons of ammonium nitrate fertilizer detonated during a fire at a fertilizer plant in the town of West, Texas, killing at least 15 people, causing injury to over 200 individuals and damaging nearby schools, homes and a nursing home.

More recently, this past November, four workers died and one was injured at a chemical plant in La Porte, Texas after the release of a hazardous chemical.

These terrible incidents have raised concerns about the risk posed by similar facilities across the Country. Almost every State has some community at risk and in some cases, plural communities at risk of experiencing a catastrophic event stemming from poorly regulated chemical or ammonium nitrate storage facilities.

This is an issue that affects many workers and many communities all across the Country. The Occupational Safety and Health Administration, the EPA and the Department of Homeland Security play a central role in protecting workers and communities across the Country from chemical accidents.

It is imperative that these agencies work together to prevent chemical accidents and keep our workers and communities safe by sharing relevant information and ensuring facilities are held accountable for complying with applicable regulations.

I want to recognize and thank the Administration for recognizing the severity of these recent disasters and taking action by issuing Executive Order 13650 on August 1, 2013, directing the aforementioned agencies, OSHA, EPA and Homeland Security, to lead an effort to improve operational coordination among Federal agencies as well as with State and local partners to modernize policies, regulations and standards.

Additionally, several Members of Congress, including Chairman Boxer and I and others have asked the Government Accountability Office to look closely for the potential regulatory gaps which are often the case, the gaps that leave workers and communities inadequately protected against these types of catastrophic chemical incidents.

I applaud the members of the Administration involved in the Executive Order working group and the GAO for the work put into their final reports. These reports are thorough and include great recommendations. Now is the time to roll up our sleeves and turn these words into action and have the sense of urgency that was articulated by Senator Boxer this morning.

We know that sometimes reports like this are written, then forgotten and never implemented. We have to make sure that does not happen in this case. I can assure you that Members of Congress in both parties will not forget about this issue. It is all too important to our workers, communities and, of course, to public safety. We cannot allow Federal agencies to forget as well.

I think the hearing should focus on a number of basic issues and priorities. First is to ensure that data collection and information

sharing issues between and among agencies have been identified and that plans are in place and implemented to correct these problems.

Two, we should discuss time lines, you have heard some of that already, for implementation of regulatory changes recommended by both GAO, as well as the Executive Order work group.

Third would be to determine if any additional executive branch or legislative branch actions are needed to ensure the safety and security of American workers and communities from the dangers associated with hazardous chemicals such as ammonium nitrate.

We all look forward to further exploring what questions have already been raised.

Senator CASEY. At this time, I also want to make sure I ask unanimous consent to enter the testimony submitted by the Chemical Safety Board for the record. Without objection, that will be made a part of the record.

[The referenced information follows:]

Written Testimony Submitted by U.S. Chemical Safety Board Chairman Rafael Moure-Eraso to the Joint Committee: Senate Committee on Environment and Public Works and the Senate Committee on Health, Education, Labor, and Pensions hearing entitled, "Oversight of the Implementation of the President's Executive Order on Improving Chemical Facility Safety and Security"

The CSB is an independent federal agency that investigates major chemical accidents and hazards and develops safety recommendations to prevent their recurrence in the future. The Board is a non-regulatory, scientific, investigative agency. It has an annual budget of $11.0 million and approximately 38 employees. In addition to investigations, safety studies, and recommendations, we do extensive outreach to companies and other organizations to inform them of our findings. Companies throughout the U.S. and the world use the reports, online videos, and recommendations developed by the CSB to help create what we hope are safer workplaces.

Congress frequently calls upon the CSB to investigate the root causes of some of the most complex and tragic industrial accidents across the country including the 2012 Chevron refinery fire in California and the 2014 chemical release in Charleston, West Virginia, that contaminated the drinking water supply for 300,000 residents. The CSB is also investigating a number of additional catastrophic accidents across the country including the fatal ammonium nitrate explosion in West, Texas, and the fatal explosion at the Williams Olefins facility in Geismar, Louisiana, both in 2013.

In January 2014 I authored a New York Times opinion article entitled "The Next Accident Awaits" where I noted that the current process safety regulatory system is in need of reform. Tragically there was not too much time spent waiting for the "next accident" – in November 2014 four workers were killed outside Houston in a large-scale toxic gas release from a DuPont pesticide plant. The CSB is now investigating this accident.

After the West explosion, President Obama issued an executive order requiring federal agencies to review safety rules at chemical facilities. I am encouraged by the leadership of the White House, OSHA, and EPA in taking the first steps towards reforming U.S. process safety management regulations. Today's joint committee hearing is an excellent opportunity to learn more about how the reform of existing process safety standards is moving forward. To date, both OSHA and the EPA have issued Requests For Information (RFI's), and may soon initiate rulemaking to revise the PSM standard and the RMP regulation. I support these efforts. The CSB submitted a comprehensive response to each RFI detailing needed improvements to the existing federal process safety management regulations.

The reality is that U.S. process safety management regulations have undergone no substantive improvements since their inception in the 1990's. Moreover other existing OSHA standards governing explosives like ammonium nitrate, flammable and combustible liquids, and hot work are even older, dating from the early 1970's, and are based on fire code guidance from the 1960's. These regulations have not been updated since, even as the voluntary fire codes have undergone many cycles of revision and improvement. The CSB has noted in its recent

investigations of major incidents that both the OSHA Process Safety Management (PSM) standard and the EPA Risk Management Plan (RMP) Program regulations appear to function primarily as reactive and activity-based regulatory schemes that require extensive rulemaking to modify, resulting in stagnation despite important lessons from accident investigations, advancing best practices, and changing technology.

More must be done to ensure that a comprehensive process safety management system is in place in the U.S. to protect worker safety, public health, and the environment. There must be greater emphasis from regulators and companies on preventing the occurrence of major chemical accidents through safer design and elimination of hazards.

The 2012 fire and explosion at the Chevron Refinery in Richmond, California, that sent approximately 15,000 residents to seek medical attention and endangered the lives of 19 workers was entirely preventable. Chevron's own employees had repeatedly notified company officials of the corrosion hazard (which ultimately caused the failure of a major pipe carrying hot hydrocarbons), but unfortunately this did not result in replacing the corroded piping with inherently safer, corrosion-resistant materials that were known to industry and recommended in voluntary practices.

This accident has set off a series of regulatory reforms in California, which can serve as a model for the modernization of process safety management at the federal level. California is taking important steps towards modernizing process safety management by funding additional PSM inspectors and by issuing draft process safety management regulations that address many of the attributes of a stronger regulatory system identified by the CSB's investigative reports. In October, California's legislature passed, and Gov. Jerry Brown signed, a sweeping law requiring the state's petroleum refineries to provide regulators with detailed information concerning extensive maintenance overhauls and repair operations – known in the industry as turnarounds. This important reform will help prevent accidents by ensuring that needed repairs will be more promptly conducted rather than deferred as we found in our Chevron investigation.

I commend California for taking action in the wake of the Chevron fire. In my view, had these new laws and regulations been in effect before August 2012, California's Division of Occupational Safety and Health, or Cal/OSHA, could have urged or required the safety improvements needed to prevent the accident.

To continue to advocate for further reforms, the CSB recently added the issue of federal process safety management reform and modernization to its Most Wanted Chemical Safety Improvements Program. The goal of adding this important issue to the CSB Most Wanted Program is the continuous improvement of process safety management in the U.S. through the implementation of key federal and state CSB process safety-related recommendations and lessons learned.

The CSB has found that current federal and state regulations do not focus enough on continuously reducing process risks. CSB investigations into serious accidents including the Tesoro explosion and fire in Anacortes, Washington, and the Chevron Refinery fire found that there was no requirement to reduce risks to a specific risk target such as "As Low As Reasonably

Practicable" (ALARP), which is the standard applied in Europe and elsewhere, where major accident rates are much lower. Similarly, there is no mechanism to ensure continuous safety improvement; no requirement to address the effectiveness of controls or to rank the effectiveness of preventive measures (also referred to as the hierarchy of controls); and no requirement to implement and document an inherently safer systems analysis in establishing safeguards for process hazards.

The CSB investigation reports on these incidents noted that there should be an increased role for workers and worker representatives in process safety management and that similar to recent actions in California, where the force of specialized refinery safety inspectors was tripled, the regulator must have the tools and technically competent personnel to conduct preventative inspections and audits.

We have often heard the argument that the major accidents of recent years are the result of mistakes by what some have called "outlier" companies. Most recently, this argument has been floated in industry comments responding to OSHA and EPA's requests for information on safety regulatory reform. Small companies like West Fertilizer in Texas and Freedom Industries – the small terminal operator whose leak contaminated West Virginians' drinking water – are unaware of rules and good practices, are not members of national trade associations or subscribers to their voluntary programs, and generally fly beneath the regulatory radar – so the argument goes. One trade association, in its comments, went so far as to say that the massive explosion at BP's Texas City refinery in 2005 was an "outlier" event, even though this was at the time the third largest oil refinery in the country, owned by one of the world's largest and most technically sophisticated corporations.

There should be no mistake – process safety disasters are not limited to any so-called outliers. These disasters – *which no one wants to occur* – are the result of many factors affecting large and small companies alike. These include: weak or obsolete regulatory standards, inadequate regulatory resources and staffing, overly permissive industry standards, and a lack of safe design requirements and risk reduction targets.

The most recent example is the tragic chemical accident at the major DuPont chemical plant in La Porte, Texas, just east of Houston. On November 15, 2014, there was a release of methyl mercaptan, a highly toxic and volatile liquid, which DuPont itself has estimated at 23,000 pounds – a very significant quantity. Odors of the chemical were reportedly discernible many miles from the plant. Four workers – including operators and would-be rescuers – perished inside the methomyl-production building where the release originated.

DuPont is certainly no "outlier." In fact, DuPont has long been regarded as one of industry's leading lights in safety, and it markets its safety programs to other companies. What happened last month, however, was the fifth release incident at a DuPont facility that the CSB has investigated since 2010, and three of these had associated fatalities. While the CSB investigation remains underway in La Porte, some preliminary facts are already emerging.

The incident occurred following an unplanned shutdown of the methomyl unit due to inadvertent water dilution of a chemical storage tank several days earlier. Efforts were underway

to restart the process, but problems occurred including plugged supply piping leading from the methyl mercaptan storage tank. As efforts were underway to troubleshoot these problems, it is likely that methyl mercaptan (and possibly other toxic chemicals) inadvertently entered the interconnected process vent system inside the building. The release occurred through a valve that was opened as part of a routine effort to drain liquid from the vent system in order to relieve pressure inside. We found that this vent system had a history of periodic issues with unwanted liquid build-up, and the valve in question was typically drained directly into the work area inside the building, rather than into a closed system. In addition, our investigators have found that the building's ventilation fans were not in service, and that the company did not effectively implement good safety practices requiring personnel to wear appropriate personal protective equipment (PPE) that was present at the facility. Appropriate PPE would include equipment, such as supplied air respirators, for workers performing potentially hazardous tasks inside the building.

In summary, this was a complex process-related accident with tragic results. It gives rise to a number of design and organizational safety concerns. Its occurrence – taken along with other major accidents afflicting large and small corporations – underscores the need for some systemic reforms. It would be a serious and tragic mistake to consider each of these accidents as just another isolated event, reflecting only the limited practices of a small group of people operating outside regulatory scrutiny. If it can happen at DuPont, I would submit it can happen anywhere.

In June 2013 I testified before the Senate EPW Committee on the CSB's ongoing investigation into the West, Texas, ammonium nitrate (AN) explosion that tragically killed 15 people and caused hundreds of injuries, and devastated much of the town including homes, schools, businesses, and health care facilities. The explosion followed an intense fire that consumed a wooden storage building that held tons of fertilizer ammonium nitrate in wooden bins. At that time I noted the existing patchwork of U.S. safety standards and guidance for such facilities: a patchwork that has many large holes, including allowing the use of combustible wooden buildings and wooden storage bins, few requirements for sprinklers (there were none at West), and no federal, state, or local rules restricting the storage of large amounts of ammonium nitrate near homes, schools and hospitals.

Voluntary guidance provided by the Agricultural Retailers Association and The Fertilizer Institute as well as an ammonium nitrate safety advisory issued in August 2013 by OSHA, EPA, and ATF are definitely positive steps in addressing the hazards associated with the storage of AN. But they are not enough by themselves. It is sobering to reflect that nearly two years after the West disaster, very little if anything has changed in terms of federal, state, or local requirements for ammonium nitrate handling and storage. These practices still lag behind the ammonium nitrate safety practices of other countries, as well as the good practice guidance of the U.S. explosives industry, which has advocated commonsense safeguards like noncombustible storage buildings and sprinkler systems to prevent fires that can sensitize ammonium nitrate to explosion. Meanwhile fires continue to occur threatening ammonium nitrate stored in wooden buildings, such as a recent fire at a fertilizer distributor in Athens, Texas, that mercifully did not cause an explosion in the middle of that town.

Industry and government have increased their efforts to prevent major chemical accidents. But CSB investigations show that much more needs to be done to assure that future tragedies will be avoided – the opportunity for meaningful reform is now. Thank you for the opportunity to submit written testimony for this important hearing today.

MOST WANTED CHEMICAL SAFETY IMPROVEMENT:

Modernize U.S. Process Safety Management Regulations

Introduction

Process safety management regulations in the U.S. have undergone little reform since their inception in the 1990s. Although recently there have been some positive initial steps taken toward significant improvements in process safety management at the federal level, more must be done to ensure that a more comprehensive process safety management system is in place in the U.S. to protect worker safety, public health, and the environment. As such, the CSB has an opportunity to advance national process safety management reform by advocating for this issue as part of its Most Wanted Chemical Safety Improvements Program ("Most Wanted Program").[1] The goal of adding this important issue to the CSB Most Wanted Program is the continuous improvement of process safety management in the U.S. through the implementation of key federal and state CSB process safety-related recommendations and lessons learned.

Over the last two decades, the CSB has made important recommendations aimed at preventing recurrence of major industrial accidents by improving OSHA'S Process Safety Management (PSM) Standard and EPA's Risk Management Plan (RMP) Program, as described below. The CSB has also noted in its recent investigations of major refinery incidents that both PSM and RMP, although written as performance-based regulations, appear to function primarily as reactive and activity-based regulatory schemes that require extensive rulemaking to modify, resulting in stagnation despite advancing best practices and technology. Specifically, CSB investigations of the Tesoro Anacortes refinery explosion and fire in April 2010 and the Chevron Richmond refinery fire in August 2012 found that there was no requirement to reduce risks to As Low As Reasonably Practicable (ALARP) or similar; there was no mechanism to ensure continuous safety improvement; no requirement to implement inherent safety or the hierarchy of controls; that there should be an increased role for workers and worker representatives in process safety management; and that there needed to be in place a more proactive, technically qualified regulator. As a result of these findings, the CSB made recommendations at the federal, state, and local level to prevent major incidents by adopting a more rigorous regulatory system that requires covered facilities to continuously reduce major hazard risks.

Two important ongoing activities present an opportunity for the CSB to advance these process safety management recommendations. Following the April 2013 explosion and fire that occurred at a fertilizer storage and distribution facility in West, Texas, and

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[1] The CSB adopted the Most Wanted Program on June 12, 2012. Board Order 046, *Most Wanted Chemical Safety Improvements Program,* discusses the policies of the program in detail. *See*http://www.csb.gov/assets/Record/Order_046_(06122012).pdf (accessed October 27, 2014).

caused fifteen fatalities and hundreds of injuries,[2] President Obama issued Executive Order 13650, *Improving Chemical Facility Safety and Security*, on August 1, 2013.[3] The Executive Order established the Chemical Facility Safety and Security Working Group, a working group of federal agencies[4] tasked with, among other things, developing options for enhancing and modernizing policies, regulations, and standards to improve the safety and security of chemical facilities.[5,6] To date, both OSHA and the EPA have issued Requests For Information (RFI) as a result of the Order, and may soon initiate rulemaking to revise the PSM standard and RMP regulations.

At the state level, California is taking important initial steps towards modernizing process safety management by funding additional PSM unit inspectors and issuing revised draft process safety management regulations that address many of the attributes of a stronger regulatory system identified by the CSB investigative reports. If adopted, these regulatory changes may serve as a model for federal PSM reform.

These activities present an opportunity for the CSB to advance key federal and state CSB process safety-related recommendations. Adding an issue targeting modernizing process safety management to the CSB Most Wanted list will enhance agency efforts to advocate for their implementation.

Federal Process Safety Reform

CSB Recommendations for Federal Process Safety Management Reform

As mentioned in the introduction, the CSB has made recommendations for fundamental process safety management reform at the federal, state and local levels. As a result of the Tesoro Anacortes refinery incident that occurred in April 2010, the CSB made a sweeping recommendation to the EPA to use its existing authority under the Clean Air Act to require the documented use of inherently safer systems analysis and the hierarchy of controls to "the greatest extent feasible" with the goal of reducing risk of major accidents to As Low As Reasonably Practicable (ALARP).

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[2] *See* CSB investigation of West, Texas, fertilizer incident athttp://www.csb.gov/west-fertilizer-explosion-and-fire-/(accessed October 27, 2014).

[3] *Improving Chemical Facility Safety and Security.* Exec. Order No. 13650, 78 Fed. Reg. 48029 (August 1, 2013). https://www.federalregister.gov/articles/2013/08/07/2013-19220/improving-chemical-facility-safety-and-security (accessed January 7, 2014).

[4] The working group includes the EPA, the Department of Justice, the Department of Agriculture, the Department of Transportation, and the Department of Labor.

[5] *See* Section 6 of the Executive Order.

[6] The group has included the safety case regulatory model in a list of potential actions it may consider taking to improve chemical safety regulation. *See* Working Group response to Executive Order 13650, Section 6(a) – Solicitation of Public Input on Options for Policy, Regulation, and Standards Modernization. https://www.osha.gov/chemicalexecutiveorder/Section_6ai_Options_List.html (accessed January 7, 2014).

The CSB has made additional recommendations over the years to OSHA and the EPA that have called for important changes to PSM and RMP within their current frameworks. To date, these recommendations have not been implemented.

On July 25, 2013, the CSB held a public meeting to discuss the status of key CSB safety recommendations made to OSHA in the last decade to revise and improve the PSM standard.[7] These recommendations include the potential impacts on process safety of organizational changes (e.g., mergers and acquisitions, key personnel changes and budget cutting), and the potential catastrophic hazards of atmospheric storage tanks containing flammable materials that are connected to processes covered under the PSM standard. While acknowledging some positive steps taken by OSHA, such as including process safety management in its regulatory agenda, the CSB expressed at the meeting its disappointment with OSHA's lack of progress with implementation of open CSB recommendations to improve the PSM standard.[8] As a result of the meeting, the Board voted to change the status of the three recommendations made to OSHA to "Open-Unacceptable."[9]

On March 11, 2014, the CSB Board voted to change the status of a recommendation made to EPA to improve the RMP rule to "explicitly cover catastrophic reactive hazards that have the potential to seriously impact the public, including those resulting from self-reactive chemicals and combinations of chemicals and process-specific conditions" to an "Open-Unacceptable Response" since more than ten years have passed since issuance of this recommendation, and EPA has not initiated rulemaking consistent with its intent.

Each regulatory recommendation made to OSHA or the EPA reflects a serious shortcoming in process safety management regulations, as the CSB investigations have demonstrated. OSHA has only taken a modest administrative action to partly address the recommendation regarding coverage of organizational changes under Management of Change requirements of the PSM standard. Even this administrative action is insufficient, as it relies on an interpretation of the standard that could be modified by a future OSHA

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[7] The CSB made another recommendation (2001-01-H-R1) to OSHA in its 2002 reactive hazards study to modify the PSM standard to more comprehensively manage reactive hazards. On January 28, 2004, the Board voted unanimously to designate the status of this recommendation as "Open-Unacceptable".

[8] For a copy of the public meeting transcript *see* http://www.csb.gov/assets/1/7/0725CSB-OSHA_(2).pdf (accessed October 27, 2014).

[9] "Open-Unacceptable" means that the recommendation recipient responds by expressing disagreement with the need outlined in the recommendation. The Board believes, however, that there is enough supporting evidence to ask the recipient to reconsider. The three open-unacceptable recommendations made to OSHA are: 1) Recommendation to ensure coverage under the Process Safety Management (PSM) standard for atmospheric storage tanks that could be involved in a potential catastrophic release as a result of being interconnected to a covered process with 10,000 pounds of a flammable substance. The recommendation was issued in 2002 following the CSB's investigation of a 2001 explosion of a poorly maintained, corroded storage tank containing spent sulfuric acid and flammable hydrocarbons at the Motiva refinery in Delaware City, Delaware. A worker was conducting hot work which ignited vapor through holes in the deteriorated tank. 2) Recommendation to revise the PSM standard to require management of change (MOC) reviews for organizational changes such as mergers and acquisitions that may impact process safety. This recommendation, issued in 2007, followed the 2005 explosions and fire at the BP Texas City refinery which killed 15 workers and injured 180 others. 3) Recommendation that OSHA issue a fuel gas safety standard for construction and general industry.

administration. With regard to reactive hazards, both OSHA and EPA have provided some very valuable additional guidance on its webpage, but have not taken any regulatory actions concerning these hazards. Finally, with regard to the hazards of atmospheric tanks with flammable connected to covered processes, OSHA has not fulfilled its commitments to administrative action (revisions of the PSM Compliance Directive), long past its promised or implied deadlines.

Executive Order 13650 presents an opportunity to advance these important CSB recommendations by advocating for their incorporation into forthcoming revisions to both PSM and RMP.

CSB Advocacy Activities to Date in the Context of the Recent Executive Order on Chemical Safety

Consistent with Executive Order 13650, both OSHA and the EPA issued Requests for Information, or RFIs, within the last year, requesting comment on potential revisions to several standards, including PSM and RMP.[10] The CSB submitted a comprehensive response to each RFI detailing needed improvements to the existing federal process safety management regulations, which are supported by a number of CSB ongoing and completed investigations.

For PSM, the CSB recommended that OSHA:

- Expand the rule's coverage to include the Oil and Gas Sector and add reactive chemicals, among others;
- Add additional management system elements to include the use of leading and lagging indicators to drive process safety performance and provide stop work authority to employees;
- Update existing Process Hazard Analysis requirements to include the documented use of inherently safer systems, hierarchy of controls, damage mechanism hazard reviews, and sufficient and adequate safeguards;
- Develop more explicit requirements for facility/process siting and human factors, including fatigue;
- Define and evaluate updates to Recognized And Generally Accepted Good Engineering Practice (RAGAGEP);

[10] OSHA issued its RFI on potential revisions to its standards, including the PSM standard, on December 9, 2013 (at 78 FR 73756). The CSB issued its formal response to the RFI on March 31, 2014. View the CSB's response at http://www.csb.gov/assets/1/16/CSB_RFIcomments.pdf (accessed October 27, 2014). The EPA issued its RFI on potential revisions to the RMP program regulations and related programs on July 31, 2014 (at 79 FR 44603). View the EPA RFI at https://www.federalregister.gov/articles/2014/07/31/2014-18037/accidental-release-prevention-requirements-risk-management-programs-under-the-clean-air-act-section (accessed October 27, 2014). The CSB issued its formal response to the RFI on October 29, 2014. View the CSB's response at http://www.csb.gov/assets/1/7/EPA_RFI.pdf (accessed November 12, 2014).

- Add safety-critical equipment to existing mechanical integrity requirements;
- Clarify Management of Change requirements to ensure they are applied to organizational changes
- Require coordination of covered facility emergency plans with local emergency-response authorities; and
- Permit third-party compliance audits

For RMP, in addition to PSM program related enhancements mentioned above, the CSB recommended that EPA:

- Expand the rule's coverage to include reactive chemicals, high and/or low explosives, and ammonium nitrate as regulated substances and to change enforcement policies for retail facilities;
- Enhance development and reporting of worst case and alternate release scenarios; and
- Add new prevention program requirements, including automated detection and monitoring, contractor selection and oversight, public disclosure of information, and, for petroleum refineries, attributes of goal-setting regulatory approaches.

Process Safety Reform at the State and Local Levels

In the Tesoro Anacortes investigation report, the CSB made recommendations to the state of Washington to augment its existing process safety management regulations to adopt more rigorous risk reduction requirements, including performance of a more comprehensive process hazard analysis; documented inherently safer systems analysis and hierarchy of controls to the greatest extent feasible with the goal of driving risk to ALARP; documented evaluation of the effectiveness of process safeguards; a thorough review of the comprehensive hazard analysis by a technically qualified regulator; and a requirement that all safety codes, standards, employer internal procedures and RAGAGEP contain adequate minimum requirements. Washington Governor Jay Inslee has committed to reviewing federal, state, and industry best practices to identify opportunities to further reduce or eliminate hazards associated with the catastrophic release of highly hazardous chemicals for all work places covered under Washington's Process Safety Management of Highly Hazardous Chemicals rules.[11]

In April 2013, the CSB released its first report on the August 2012 Chevron Richmond refinery incident ("the Interim Report") which made safety recommendations to a number of entities, including the California State Legislature, the EPA, Contra Costa County (CCC) and the City of Richmond. The Board recommended that the California State

[11] *See* August 14, 2014, letter sent from Washington Governor Jay Inslee to CSB Chairperson Moure-Eraso. In the letter he stated he was "fully committed to the prevention of all unnecessary worker fatalities, injuries and illnesses for our workers in Washington State."

Legislature require California petroleum refineries to perform damage mechanism hazard reviews; to identify and report leading and lagging process safety indicators; to document recognized methodologies, rationale, and conclusions used to claim that safeguards intended to control hazards will be effective; and to document their inherently safer systems analysis and the hierarchy of controls in establishing safeguards for process hazards, with the goal of driving risk of major accidents to ALARP. In response to the incident and to the CSB's recommendations, both CCC and the City of Richmond have each updated their Industrial Safety Ordinance regulations with more robust requirements.

In November 2014, the Board adopted the second investigation report on the Chevron incident ("the Regulatory Report"). The Regulatory Report makes a recommendation to the state of California that, similar to Washington, calls for a more rigorous process safety regulatory system for petroleum refineries with the goal of continuous risk reduction to prevent major incidents. These attributes include the development of a more comprehensive process hazard analysis; documented damage mechanism hazard reviews; documented use of inherently safer systems analysis and the hierarchy of controls "to the greatest extent feasible" with the goal of driving risk to ALARP or similar; and required preventative audits and inspections by a technically qualified regulator to ensure effective implementation of the comprehensive hazard analysis.

As a result of the Chevron Richmond refinery incident, the state of California has worked to revise and strengthen its PSM requirements. On September 9, 2014, the State of California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) released its Draft *Process Safety Management for Refineries* Regulation.[12] The draft regulation incorporates a risk-reduction goal of "the greatest extent feasible"[13] for process hazard analyses and proposes significant new requirements such as performing damage mechanism reviews and hierarchy of controls analysis.

If adopted, California's draft proposed reforms to process safety management could serve as a model for the rest of the country. By adding this issue to the Most Wanted List, the CSB has an opportunity to advocate for the implementation of these recommendations, as well as to ensure that the applicability of such more rigorous risk reduction frameworks is explored within the context of the national dialogue on process safety management reform initiated under Executive Order 13650.

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[12] The proposed draft regulations can be found here: http://www.dir.ca.gov/dosh/DoshReg/Process-Safety-Management-for-Refineries/PSM-Draft-Regulation.2014-09-09.pdf (accessed October 8, 2014).
[13] "Feasible" is defined as "capable of being achieved."

Conclusion

By adding the modernizing of U.S. process safety management regulations to the CSB's Most Wanted Safety Improvement List, the CSB is identifying this issue as one of the most important chemical safety improvement goals of the CSB. This issue is rooted in critical safety recommendations made over the last two decades to prevent recurrence of catastrophic industrial accidents by improving process safety management at federal, state, and local levels. Although some progress has been made, these recommendations have not been implemented to date. Executive Order 13650, *Improving Chemical Facility Safety and Security*, issued by the President on August 1, 2013, as well as positive steps towards modernizing process safety management at the state level, present an opportunity for the CSB to advance these key recommendations toward closure.

It is important to note that in the Chevron Regulatory Report, the Board committed to hold a public hearing in the Spring of 2015 to discuss the need for process safety management regulatory reform at the federal level. As stated in Section 7 of the Chevron Regulatory report:

> *The public hearing will include discussion of various models for high hazard facility safety regulation from around the U.S. and the world – including consideration of safety case type models [e.g. the "Safety Case" as practiced in the European Union, Norway, and Australia]. Presentations, or written comments, regarding various regimes should discuss, at a minimum, the following:*

- *The role of transparency and community involvement;*
- *The effectiveness of worker (union and non-union) involvement programs and the effectiveness of protecting workers from retaliatory actions;*
- *The methods for measuring process safety performance and for reporting of process safety indicator data (to regulators, the public, third parties, or industry groups);*
- *The approach used to strive for risk reduction and continuous improvement;*
- *The approach for establishing a "tolerable" risk level; and*
- *The effectiveness of enforcement methods.*

Upon adoption of this issue onto the Most Wanted List by the CSB, CSB staff will develop an Advocacy Strategy to plan actions that the CSB and its staff will take to advocate for this issue. The strategy will include the public hearing describe above and an issue webpage featuring the CSB's process safety management recommendations and responses to OSHA's PSM and EPA's RMP RFIs, among other actions. Moving forward, the CSB will be examining incidents at petroleum refineries around the country in order to study the need for fundamental process safety reform for refineries at the federal level. This study may identify additional changes in these regulations needed to protect workers, public health, and the environment.

Appendix A: CSB Recommendations for Process Safety Management Reform

Recommendation 2001-01-H-R1
2002 Improving Reactive Hazard Management Study
Recipient: OSHA
Status: Open--Unacceptable Response

Amend the Process Safety Management Standard (PSM), 29 CFR 1910.119, to achieve more comprehensive control of reactive hazards that could have catastrophic consequences.

- *Broaden the application to cover reactive hazards resulting from process-specific conditions and combinations of chemicals. Additionally, broaden coverage of hazards from self-reactive chemicals. In expanding PSM coverage, use objective criteria. Consider criteria such as the North American Industry Classification System (NAICS), a reactive hazard classification system (e.g., based on heat of reaction or toxic gas evolution), incident history, or catastrophic potential.*

- *In the compilation of process safety information, require that multiple sources of information be sufficiently consulted to understand and control potential reactive hazards. Useful sources include:*
    - *Literature surveys (e.g., Bretherick's Handbook of Reactive Chemical Hazards, Sax's Dangerous Properties of Industrial Materials).*
    - *Information developed from computerized tools (e.g., ASTM's CHETAH, NOAA's The Chemical Reactivity Worksheet).*
    - *Chemical reactivity test data produced by employers or obtained from other sources (e.g., differential scanning calorimetry, thermogravimetric analysis, accelerating rate calorimetry).*
    - *Relevant incident reports from the plant, the corporation, industry, and government. - Chemical Abstracts Service.*

- *Augment the process hazard analysis (PHA) element to explicitly require an evaluation of reactive hazards. In revising this element, evaluate the need to consider relevant factors, such as:*
    - *Rate and quantity of heat or gas generated. - Maximum operating temperature to avoid decomposition.*
    - *Thermal stability of reactants, reaction mixtures, byproducts, waste streams, and products.*

- *Effect of variables such as charging rates, catalyst addition, and possible contaminants.*
- *Understanding the consequences of runaway reactions or toxic gas evolution.*

Recommendation 2001-01-H-R3
2002 Improving Reactive Hazard Management Study
Recipient: EPA
Status: Open--Unacceptable Response

Revise the Accidental Release Prevention Requirements, 40 CFR 68, to explicitly cover catastrophic reactive hazards that have the potential to seriously impact the public, including those resulting from self-reactive chemicals and combinations of chemicals and process-specific conditions. Take into account the recommendations of this report to OSHA on reactive hazard coverage. Seek congressional authority if necessary to amend the regulation.

Recommendation 2001-05-I-DE-R1.
2002 Motiva Refinery Investigation Report
Recipient: OSHA
Status: Open—Unacceptable Response

Ensure coverage under the Process Safety Management Standard (29 CFR 1910.119) of atmospheric storage tanks that could be involved in a potential catastrophic release as a result of being interconnected to a covered process with 10,000 pounds of a flammable substance.

Recommendation 2005-4-I-TX-R9
2007 BP Texas City Final Investigation Report
Recipient: OSHA
Status: Open-Unacceptable Response

Amend the OSHA PSM standard to require that a management of change (MOC) review be conducted for organizational changes that may impact process safety including

a. major organizational changes such as mergers, acquisitions, or reorganizations;

b. personnel changes, including changes in staffing levels or staff experience; and

c. policy changes such as budget cutting.

Recommendations 2010-08-I-WA-R1 through R4
2014 Tesoro Anacortes Final Investigation Report
Recipient: EPA
Status: Open

2010-08-I-WA-R1

Revise the Chemical Accident Prevention Provisions under 40 CFR Part 68 to require the documented use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible when facilities are establishing safeguards for identified process hazards. The goal shall be to reduce the risk of major accidents to the greatest extent practicable, to be interpreted as equivalent to as low as reasonably practicable (ALARP). Include requirements for inherently safer systems analysis to be automatically triggered for all management of change, incident investigation, and process hazard analysis reviews and recommendations, prior to the construction of a new process, process unit rebuilds, significant process repairs, and in the development of corrective actions.

2010-08-I-WA-R2

Until Recommendation 2010-08-I-WA-R1 is in effect, enforce through the Clean Air Act's General Duty Clause, section 112(r)(1), 42 U.S.C. §7412(r)(1) the use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible when facilities are establishing safeguards for identified process hazards.

2010-08-I-WA-R3

Develop guidance for the required use of inherently safer systems analysis and the hierarchy of controls for enforcement under 40 CFR Part 68 and the Clean Air Act's General Duty Clause, section 112(r)(1), 42 U.S.C. §7412(r)(1).

2010-08-I-WA-R4

Effectively participate in the Tesoro Anacortes Refinery process safety culture survey oversight committee as recommended under recommendation 2010-08-I-WA-R15. Incorporate the expertise of process safety culture experts in the development and interpretation of the safety culture surveys. Ensure the effective participation of the workforce and their representatives in the development of the surveys and the implementation of corrective actions.

Recommendations 2010-08-I-WA-R5 through R7
2014 Tesoro Anacortes Final Investigation Report
Recipient: Washington State Legislature, Governor of Washington
Status: Open

2010-08-I-WA-R5

Based on the findings in this report, augment your existing process safety management regulations for petroleum refineries in the state of Washington with the following more rigorous goal-setting attributes:

a. A comprehensive process hazard analysis written by the company that includes:

i. Systematic analysis and documentation of all major hazards and safeguards, using the hierarchy of controls to reduce those risks to as low as reasonably practicable (ALARP);

ii. Documentation of the recognized methodologies, rationale and conclusions used to claim that safeguards intended to control hazards will be effective;

iii. Documented damage mechanism hazard review conducted by a diverse team of qualified personnel. This review shall be an integral part of the Process Hazard Analysis cycle and shall be conducted on all PSM-covered process piping circuits and process equipment. The damage mechanism hazard review shall identify potential process damage mechanisms and consequences of failure, and shall ensure effective safeguards are in place to control hazards presented by those damage mechanisms. Require the analysis and incorporation of applicable industry best practices and inherently safer design to the greatest extent feasible into this review; and

iv. Documented use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible in establishing safeguards for identified process hazards. The goal shall be to drive the risk of major accidents to As Low As Reasonably Practicable (ALARP). Include requirements for inherently safer systems analysis to be automatically triggered for all Management of Change and Process Hazard Analysis reviews, prior to the construction of new processes, process unit rebuilds, significant process repairs, and in the development of corrective actions from incident investigation recommendations.

b. A thorough review of the comprehensive process hazard analysis by technically competent regulatory personnel;

c. Required preventative audits and preventative inspections by the regulator;

d. Require that all safety codes, standards, employer internal procedures and recognized and generally accepted good engineering practices (RAGAGEP) used in the implementation of the regulations contain adequate minimum requirements;

e. A model where the regulator, the company, and workers and their representatives play an equal and essential role in the direction of preventing major accidents. Require an increased role for workers in management of process safety by establishing the rights and responsibilities of workers and their representatives on health and safety-related matters, and the election of safety representatives and establishment of safety committees (with equal representation between management and labor) to serve health and safety-related functions. The elected representatives should have a legally recognized role that goes beyond consultation in activities such as the development of the comprehensive process hazard analysis, management of change, incident investigation, audits, and identification and effective control of hazards. The representatives should also have the authority to stop work that is perceived to be unsafe or that presents a serious hazard until the regulator intervenes to resolve the safety concern. Workforce participation practices should be documented by the company to the regulator; and

f. Requires reporting of information to the public to the greatest extent feasible such as a summary of the comprehensive process hazard analysis which includes a list of safeguards implemented and standards utilized to reduce risk, and process safety indicators that demonstrate the effectiveness of the safeguards and management systems.

2010-08-I-WA-R6

A well-funded, well-staffed, technically qualified regulator with a compensation system to ensure the Washington Department of Labor and Industries regulator has the ability to attract and retain a sufficient number of employees with the necessary skills and experience to ensure regulator technical qualifications. Periodically conduct a market analysis and benchmarking review to ensure the compensation system remains competitive with Washington petroleum refineries.

2010-08-I-WA-R7

Work with the regulator, the petroleum refining industry, labor, and other relevant stakeholders in the state of Washington to develop and implement a system that collects, tracks, and analyzes process safety leading and lagging indicators from operators and contractors to promote continuous process safety improvements. At a minimum, this program shall:

a. Require the use of leading and lagging process safety indicators to actively monitor the effectiveness of process safety management systems and safeguards for major accident prevention. Include leading and lagging indicators that are measureable, actionable, and standardized. Include indicators that measure safety culture, such as incident reporting and action item implementation culture. Require that the reported data be used for continuous process safety improvement and accident prevention;

b. *Analyze data to identify trends and poor performers and publish annual reports with the data at facility and corporate levels;*

c. *Require companies to publicly report required indicators annually at facility and corporate levels;*

d. *Use process safety indicators (1) to drive continuous improvement for major accident prevention by using the data to identify industry and facility safety trends and deficiencies and (2) to determine appropriate allocation of regulator resources and inspections; and*

e. *Be periodically updated to incorporate new learning from world-wide industry improvements in order to drive continuous major accident process safety improvements in Washington.*

Recommendations 2012-03-I-CA-R3 through R5
2013 Chevron Richmond Refinery Fire Interim Investigation Report
Recipient: Mayor and City Council, City of Richmond, California
Status: Open

2012-03-I-CA-R3

Revise the Industrial Safety Ordinance (ISO) to require that Process Hazard Analyses include documentation of the recognized methodologies, rationale and conclusions used to claim that safeguards intended to control hazards will be effective. This process shall use established qualitative, quantitative, and/or semi-quantitative methods such as Layers of Protection Analysis (LOPA).

2012-03-I-CA-R4

Revise the Industrial Safety Ordinance (ISO) to require the documented use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible in establishing safeguards for identified process hazards. The goal shall be to drive the risk of major accidents to As Low As Reasonably Practicable (ALARP). Include requirements for inherently safer systems analysis to be automatically triggered for all Management of Change and Process Hazard Analysis reviews, prior to the construction of new processes, process unit rebuilds, significant process repairs, and in the development of corrective actions from incident investigation recommendations.

2012-03-I-CA-R5

Ensure the effective implementation of the damage mechanism hazard review program (2012-03-I-CA-R1 and 2012-03-I-CA-R2), so that all necessary mechanical integrity work at the Chevron Richmond Refinery is identified and recommendations are completed in a timely way.

Recommendations 2012-03-I-CA-R6 through R8
2013 Chevron Richmond Refinery Fire Interim Investigation Report
Recipient: Board of Supervisors, Contra Costa County, California
Status: Open

2012-03-I-CA-R6

Revise the Industrial Safety Ordinance (ISO) to require that Process Hazard Analyses include documentation of the recognized methodologies, rationale and conclusions used to claim that safeguards intended to control hazards will be effective. This process shall use established qualitative, quantitative, and/or semi-quantitative methods such as Layers of Protection Analysis (LOPA).

2012-03-I-CA-R7

Revise the Industrial Safety Ordinance (ISO) to require the documented use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible in establishing safeguards for identified process hazards. The goal shall be to drive the risk of major accidents to As Low As Reasonably Practicable (ALARP). Include requirements for inherently safer systems analysis to be automatically triggered for all Management of Change and Process Hazard Analysis reviews, prior to the construction of new processes, process unit rebuilds, significant process repairs, and in the development of corrective actions from incident investigation recommendations.

2012-03-I-CA-R8

Monitor and confirm the effective implementation of the damage mechanism hazard review program (2012-03-I-CA-R1 and 2012-03-I-CA-R2), so that all necessary mechanical integrity work at the Chevron Richmond Refinery is identified and recommendations are completed in a timely way.

Recommendations 2012-03-I-CA-R9 through R14
2013 Chevron Richmond Refinery Fire Interim Investigation Report
Recipient: California State Legislature, Governor of California
Status: Open

2012-03-I-CA-R9

Revise the California Code of Regulations, Title 8, Section 5189, Process Safety Management of Acutely Hazardous Materials, to require improvements to mechanical integrity and process hazard analysis programs for all California oil refineries. These improvements shall include engaging a diverse team of qualified personnel to perform a documented damage mechanism hazard review. This review shall be an integral part of the Process Hazard Analysis cycle and shall be conducted on all PSM-covered process piping circuits and process equipment. The damage mechanism hazard review shall identify potential process damage mechanisms and consequences of failure, and shall ensure safeguards are in place to control hazards presented by those damage mechanisms. Require the analysis and incorporation of applicable industry best practices and inherently safety systems to the greatest extent feasible into this review.

2012-03-I-CA-R10

For all California oil refineries, identify and require the reporting of leading and lagging process safety indicators, such as the action item completion status of recommendations from damage mechanism hazard reviews, to state and local regulatory agencies that have chemical release prevention authority. These indicators shall be used to ensure that requirements described in 2012-03-I-CA-R9 are effective at improving mechanical integrity and process hazard analysis performance at all California oil refineries and preventing major chemical incidents.

2012-03-I-R11

Establish a multi-agency process safety regulatory program for all California oil refineries to improve the public accountability, transparency, and performance of chemical accident prevention and mechanical integrity programs. This program shall:

1. Establish a system to report to the regulator the recognized methodologies, findings, conclusions and corrective actions related to refinery mechanical integrity inspection and repair work arising from Process Hazard Analyses, California oil refinery turnarounds and maintenance-related shutdowns;

2. Require reporting of information such as damage mechanism hazard reviews, notice of upcoming maintenance-related shutdowns, records related to proposed and completed mechanical integrity work lists, and the technical rationale for any delay in work proposed but not yet completed;

3. Establish procedures for greater workforce and public participation including the public reporting of information; and

4. Provide mechanisms for federal, state and local agency operational coordination, sharing of data (including safety indicator data), and joint accident prevention activities. The California Department of Industrial Relations will be designated as the lead state agency for establishing a repository of joint

investigative and inspection data, coordinating the sharing of data and joint accident prevention activities.

2012-03-I-CA-R12

Require that Process Hazard Analyses required under California Code of Regulations, Title 8, Section 5189 Section (e) include documentation of the recognized methodologies, rationale and conclusions used to claim that safeguards intended to control hazards will be effective. This process shall use established qualitative, quantitative, and/or semi-quantitative methods such as Layers of Protection Analysis (LOPA).

2012-03-I-CA-R13

Require the documented use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible in establishing safeguards for identified process hazards. The goal shall be to drive the risk of major accidents to As Low As Reasonably Practicable (ALARP). Include requirements for inherently safer systems analysis to be automatically triggered for all Management of Change and Process Hazard Analysis reviews, prior to the construction of new process, process unit rebuilds, significant process repairs and in the development of corrective actions from incident investigation recommendations.

2012-03-I-CA-R14

Monitor and confirm the effective implementation of the damage mechanism hazard review program (2012-03-I-CA-R9 and 2012-03-I-CA-R10), so that all necessary mechanical integrity work at all California Chevron Refineries is identified and recommendations are completed in a timely way.

Recommendation 2012-03-I-CA-R15
2013 Chevron Richmond Refinery Fire Interim Investigation Report
Recipient: EPA
Status: Open

Jointly plan and conduct inspections with Cal/OSHA, California EPA, and other state and local regulatory agencies with chemical accident prevention responsibilities to monitor the effective implementation of the damage mechanism hazard review and disclosure requirements under 2012-03-I-CA-R9 and R10 above.

Recommendations 2012-03-I-CA-R16 through R20
Recipients:
The Board of Supervisors, Contra Costa County, California, 2012-03-I-CA-R16;
The Mayor and City Council, City of Richmond, California, 2012-03-I-CA-R17;
The California Air Quality Management Divisions, 2012-03-I-CA-R18;
The U.S. Environmental Protection Agency, 2012-03-I-CA-R19; and
The California Environmental Protection Agency, 2012-03-I-CA-R20;
Status: Open

Participate in the joint regulatory program described in recommendation 2012-03-I-CA-R11. This participation shall include contributing relevant data to the repository of investigation and inspection data created by the California Department of Industrial Relations and jointly coordinating activities.

Recommendations 2012-03-I-CA-R21 through 23
2014 Chevron Richmond Refinery Fire Regulatory Report
Recipient: California State Legislature, Governor of California
Status: Open

2012-03-I-CA-R21

Based on the findings in this report, enhance and restructure California's process safety management (PSM) regulations for petroleum refineries by including the following goal-setting attributes:

a. Require a comprehensive process hazard analysis (PHA) written by the company that includes:

> *i. Systematic analysis and documentation of all major hazards and safeguards, using the hierarchy of controls to identify hazards and significantly reduce risks to a goal of as low as reasonably practicable (ALARP) or similar;*
>
> *ii. Documentation of the recognized methodologies, rationale and conclusions used to claim that inherently safer systems have been implemented to as low as reasonably practicable (ALARP) or similar, and that additional safeguards intended to control remaining hazards will be effective;*
>
> *iii. Documented damage mechanism hazard review conducted by a diverse team of qualified personnel. This review shall be an integral part of the process hazard analysis (PHA) cycle and shall be conducted on all covered processes, piping circuits and equipment. The damage mechanism hazard review shall identify potential process damage mechanisms and consequences of failure, and shall ensure effective safeguards are in place to prevent or control hazards presented by those damage mechanisms. Require the analysis and incorporation of applicable industry best practices and inherently safer design to the greatest extent feasible into this review; and*

iv. Documented use of inherently safer systems analysis and the hierarchy of controls to the greatest extent feasible in establishing safeguards for identified process hazards. The goal shall be to drive the risk of major accidents to As Low As Reasonably Practicable (ALARP) or similar. Include requirements for inherently safer systems analysis to be automatically triggered for all management of change (MOC) and process hazard analysis (PHA) reviews, as well as prior to the construction of new processes, process unit rebuilds, significant process repairs, and in the development of corrective actions from incident investigation recommendations.

b. Require a thorough review of the comprehensive process hazard analysis by technically competent regulatory personnel;

c. Require preventative audits and preventative inspections by the regulator to ensure the effective implementation of the comprehensive process hazard analysis (PHA);

d. Require that all safety codes, standards, employer internal procedures and recognized and generally accepted good engineering practices (RAGAGEP) used in the implementation of the regulations contain adequate minimum requirements;

e. Require mechanisms for the regulator, the refinery, and workers and their representatives to play an equal and essential role in the direction of preventing major incidents. Require an expanded role for workers in management of process safety by establishing the rights and responsibilities of workers and their representatives on health and safety-related matters, and the election of safety representatives and establishment of safety committees (with equal representation between management and labor) to serve health and safety-related functions. The elected representatives should have a legally recognized role that goes beyond consultation in activities such as the development of the comprehensive process hazard analysis, implementation of corrective actions generated from hierarchy of control analyses, management of change, incident investigation, audits, and the identification, prevention, and control of all process hazards. The regulation should provide workers and their representatives with the authority to stop work that is perceived to be unsafe until the employer resolves the matter or the regulator intervenes. Workforce participation practices should be documented by the refinery to the regulator;

f. Require reporting of information to the public to the greatest extent feasible, such as a summary of the comprehensive process hazard analysis (PHA) which should include a list of inherently safer systems implemented; safeguards implemented for remaining hazards; standards utilized to reduce risks to As Low As Reasonably Practicable (ALARP) or similar; and process safety indicators that demonstrate the effectiveness of the safeguards and management systems;
g. Implement an approach or system that determines when new or improved industry standards and practices are needed and initiate programs and other activities, such as an advisory committee or forum, to prompt the timely development and implementation of such standards and practices; and

h. Ensure that a means of sustained funding is established to support an independent, well-funded, well-staffed, technically competent regulator.

2012-03-I-CA-R22

Implement a compensation system to ensure the regulator has the ability to attract and retain a sufficient number of employees with the necessary skills and experience to ensure regulator technical competency at all levels of process safety regulatory oversight and policy development in California. A market analysis and benchmarking review should be periodically conducted to ensure the compensation system remains competitive with California petroleum refineries.

2012-03-I-CA-R23

Work with the regulator, the petroleum refining industry, labor, and other relevant stakeholders in the state of California to develop and implement a system that collects, tracks, and analyzes process safety leading and lagging indicators from refineries and contractors to promote continuous safety improvements. At a minimum, this program shall:

a. Require the use of leading and lagging process safety indicators to actively monitor the effectiveness of process safety management systems and safeguards for major accident prevention. Include leading and lagging indicators that are measureable, actionable, and standardized. Require that the reported data be used for continuous process safety improvement and accident prevention;
b. Analyze data to identify trends and poor performers and publish annual reports with the data at facility and corporate levels;
c. Require companies to publicly report required indicators annually at facility and corporate levels;
d. Use process safety indicators (1) to drive continuous improvement for major accident prevention by using the data to identify industry and facility safety trends and deficiencies and (2) to determine appropriate allocation of regulator resources and inspections; and
e. Be periodically updated to incorporate new learning from world-wide industry improvements in order to drive continuous major accident safety improvements in California.

Recommendation 2012-03-I-CA-R24
2014 Chevron Richmond Refinery Fire Regulatory Report
Recipient: Mayor and City Council, City of Richmond, California
Status: Open

2012-03-I-CA-R24

Implement or cause to be implemented a compensation system to ensure the regulator has the ability to attract and retain a sufficient number of employees with the necessary skills and experience to ensure regulator technical competency at all levels of process safety regulatory oversight and policy development in Richmond, California. A market analysis and benchmarking review should be periodically conducted to ensure the compensation system remains competitive with California petroleum refineries.

Recommendation 2012-03-I-CA-R25
2014 Chevron Richmond Refinery Fire Regulatory Report
Recipient: Board of Supervisors, Contra Costa County, California
Status: Open

2012-03-I-CA-R25

Implement a compensation system to ensure the regulator has the ability to attract and retain a sufficient number of employees with the necessary skills and experience to ensure regulator technical competency at all levels of process safety regulatory oversight and policy development in Contra Costa County, California. A market analysis and benchmarking review should be periodically conducted to ensure the compensation system remains competitive with California petroleum refineries.

Written Testimony Submitted by U.S. Chemical Safety Board Chairman Rafael Moure-Eraso to the Joint Committee: Senate Committee on Environment and Public Works and the Senate Committee on Health, Education, Labor, and Pensions hearing entitled, "Oversight of the Implementation of the President's Executive Order on Improving Chemical Facility Safety and Security"

The CSB is an independent federal agency that investigates major chemical accidents and hazards and develops safety recommendations to prevent their recurrence in the future. The Board is a non-regulatory, scientific, investigative agency. It has an annual budget of $11.0 million and approximately 38 employees. In addition to investigations, safety studies, and recommendations, we do extensive outreach to companies and other organizations to inform them of our findings. Companies throughout the U.S. and the world use the reports, online videos, and recommendations developed by the CSB to help create what we hope are safer workplaces.

Congress frequently calls upon the CSB to investigate the root causes of some of the most complex and tragic industrial accidents across the country including the 2012 Chevron refinery fire in California and the 2014 chemical release in Charleston, West Virginia, that contaminated the drinking water supply for 300,000 residents. The CSB is also investigating a number of additional catastrophic accidents across the country including the fatal ammonium nitrate explosion in West, Texas, and the fatal explosion at the Williams Olefins facility in Geismar, Louisiana, both in 2013.

In January 2014 I authored a New York Times opinion article entitled "The Next Accident Awaits" where I noted that the current process safety regulatory system is in need of reform. Tragically there was not too much time spent waiting for the "next accident" – in November 2014 four workers were killed outside Houston in a large-scale toxic gas release from a DuPont pesticide plant. The CSB is now investigating this accident.

After the West explosion, President Obama issued an executive order requiring federal agencies to review safety rules at chemical facilities. I am encouraged by the leadership of the White House, OSHA, and EPA in taking the first steps towards reforming U.S. process safety management regulations. Today's joint committee hearing is an excellent opportunity to learn more about how the reform of existing process safety standards is moving forward. To date, both OSHA and the EPA have issued Requests For Information (RFI's), and may soon initiate rulemaking to revise the PSM standard and the RMP regulation. I support these efforts. The CSB submitted a comprehensive response to each RFI detailing needed improvements to the existing federal process safety management regulations.

The reality is that U.S. process safety management regulations have undergone no substantive improvements since their inception in the 1990's. Moreover other existing OSHA standards governing explosives like ammonium nitrate, flammable and combustible liquids, and hot work are even older, dating from the early 1970's, and are based on fire code guidance from the 1960's. These regulations have not been updated since, even as the voluntary fire codes have undergone many cycles of revision and improvement. The CSB has noted in its recent

investigations of major incidents that both the OSHA Process Safety Management (PSM) standard and the EPA Risk Management Plan (RMP) Program regulations appear to function primarily as reactive and activity-based regulatory schemes that require extensive rulemaking to modify, resulting in stagnation despite important lessons from accident investigations, advancing best practices, and changing technology.

More must be done to ensure that a comprehensive process safety management system is in place in the U.S. to protect worker safety, public health, and the environment. There must be greater emphasis from regulators and companies on preventing the occurrence of major chemical accidents through safer design and elimination of hazards.

The 2012 fire and explosion at the Chevron Refinery in Richmond, California, that sent approximately 15,000 residents to seek medical attention and endangered the lives of 19 workers was entirely preventable. Chevron's own employees had repeatedly notified company officials of the corrosion hazard (which ultimately caused the failure of a major pipe carrying hot hydrocarbons), but unfortunately this did not result in replacing the corroded piping with inherently safer, corrosion-resistant materials that were known to industry and recommended in voluntary practices.

This accident has set off a series of regulatory reforms in California, which can serve as a model for the modernization of process safety management at the federal level. California is taking important steps towards modernizing process safety management by funding additional PSM inspectors and by issuing draft process safety management regulations that address many of the attributes of a stronger regulatory system identified by the CSB's investigative reports. In October, California's legislature passed, and Gov. Jerry Brown signed, a sweeping law requiring the state's petroleum refineries to provide regulators with detailed information concerning extensive maintenance overhauls and repair operations – known in the industry as turnarounds. This important reform will help prevent accidents by ensuring that needed repairs will be more promptly conducted rather than deferred as we found in our Chevron investigation.

I commend California for taking action in the wake of the Chevron fire. In my view, had these new laws and regulations been in effect before August 2012, California's Division of Occupational Safety and Health, or Cal/OSHA, could have urged or required the safety improvements needed to prevent the accident.

To continue to advocate for further reforms, the CSB recently added the issue of federal process safety management reform and modernization to its Most Wanted Chemical Safety Improvements Program. The goal of adding this important issue to the CSB Most Wanted Program is the continuous improvement of process safety management in the U.S. through the implementation of key federal and state CSB process safety-related recommendations and lessons learned.

The CSB has found that current federal and state regulations do not focus enough on continuously reducing process risks. CSB investigations into serious accidents including the Tesoro explosion and fire in Anacortes, Washington, and the Chevron Refinery fire found that there was no requirement to reduce risks to a specific risk target such as "As Low As Reasonably

Practicable" (ALARP), which is the standard applied in Europe and elsewhere, where major accident rates are much lower. Similarly, there is no mechanism to ensure continuous safety improvement; no requirement to address the effectiveness of controls or to rank the effectiveness of preventive measures (also referred to as the hierarchy of controls); and no requirement to implement and document an inherently safer systems analysis in establishing safeguards for process hazards.

The CSB investigation reports on these incidents noted that there should be an increased role for workers and worker representatives in process safety management and that similar to recent actions in California, where the force of specialized refinery safety inspectors was tripled, the regulator must have the tools and technically competent personnel to conduct preventative inspections and audits.

We have often heard the argument that the major accidents of recent years are the result of mistakes by what some have called "outlier" companies. Most recently, this argument has been floated in industry comments responding to OSHA and EPA's requests for information on safety regulatory reform. Small companies like West Fertilizer in Texas and Freedom Industries – the small terminal operator whose leak contaminated West Virginians' drinking water – are unaware of rules and good practices, are not members of national trade associations or subscribers to their voluntary programs, and generally fly beneath the regulatory radar – so the argument goes. One trade association, in its comments, went so far as to say that the massive explosion at BP's Texas City refinery in 2005 was an "outlier" event, even though this was at the time the third largest oil refinery in the country, owned by one of the world's largest and most technically sophisticated corporations.

There should be no mistake – process safety disasters are not limited to any so-called outliers. These disasters – *which no one wants to occur* – are the result of many factors affecting large and small companies alike. These include: weak or obsolete regulatory standards, inadequate regulatory resources and staffing, overly permissive industry standards, and a lack of safe design requirements and risk reduction targets.

The most recent example is the tragic chemical accident at the major DuPont chemical plant in La Porte, Texas, just east of Houston. On November 15, 2014, there was a release of methyl mercaptan, a highly toxic and volatile liquid, which DuPont itself has estimated at 23,000 pounds – a very significant quantity. Odors of the chemical were reportedly discernible many miles from the plant. Four workers – including operators and would-be rescuers – perished inside the methomyl-production building where the release originated.

DuPont is certainly no "outlier." In fact, DuPont has long been regarded as one of industry's leading lights in safety, and it markets its safety programs to other companies. What happened last month, however, was the fifth release incident at a DuPont facility that the CSB has investigated since 2010, and three of these had associated fatalities. While the CSB investigation remains underway in La Porte, some preliminary facts are already emerging.

The incident occurred following an unplanned shutdown of the methomyl unit due to inadvertent water dilution of a chemical storage tank several days earlier. Efforts were underway

to restart the process, but problems occurred including plugged supply piping leading from the methyl mercaptan storage tank. As efforts were underway to troubleshoot these problems, it is likely that methyl mercaptan (and possibly other toxic chemicals) inadvertently entered the interconnected process vent system inside the building. The release occurred through a valve that was opened as part of a routine effort to drain liquid from the vent system in order to relieve pressure inside. We found that this vent system had a history of periodic issues with unwanted liquid build-up, and the valve in question was typically drained directly into the work area inside the building, rather than into a closed system. In addition, our investigators have found that the building's ventilation fans were not in service, and that the company did not effectively implement good safety practices requiring personnel to wear appropriate personal protective equipment (PPE) that was present at the facility. Appropriate PPE would include equipment, such as supplied air respirators, for workers performing potentially hazardous tasks inside the building.

In summary, this was a complex process-related accident with tragic results. It gives rise to a number of design and organizational safety concerns. Its occurrence – taken along with other major accidents afflicting large and small corporations – underscores the need for some systemic reforms. It would be a serious and tragic mistake to consider each of these accidents as just another isolated event, reflecting only the limited practices of a small group of people operating outside regulatory scrutiny. If it can happen at DuPont, I would submit it can happen anywhere.

In June 2013 I testified before the Senate EPW Committee on the CSB's ongoing investigation into the West, Texas, ammonium nitrate (AN) explosion that tragically killed 15 people and caused hundreds of injuries, and devastated much of the town including homes, schools, businesses, and health care facilities. The explosion followed an intense fire that consumed a wooden storage building that held tons of fertilizer ammonium nitrate in wooden bins. At that time I noted the existing patchwork of U.S. safety standards and guidance for such facilities: a patchwork that has many large holes, including allowing the use of combustible wooden buildings and wooden storage bins, few requirements for sprinklers (there were none at West), and no federal, state, or local rules restricting the storage of large amounts of ammonium nitrate near homes, schools and hospitals.

Voluntary guidance provided by the Agricultural Retailers Association and The Fertilizer Institute as well as an ammonium nitrate safety advisory issued in August 2013 by OSHA, EPA, and ATF are definitely positive steps in addressing the hazards associated with the storage of AN. But they are not enough by themselves. It is sobering to reflect that nearly two years after the West disaster, very little if anything has changed in terms of federal, state, or local requirements for ammonium nitrate handling and storage. These practices still lag behind the ammonium nitrate safety practices of other countries, as well as the good practice guidance of the U.S. explosives industry, which has advocated commonsense safeguards like noncombustible storage buildings and sprinkler systems to prevent fires that can sensitize ammonium nitrate to explosion. Meanwhile fires continue to occur threatening ammonium nitrate stored in wooden buildings, such as a recent fire at a fertilizer distributor in Athens, Texas, that mercifully did not cause an explosion in the middle of that town.

Industry and government have increased their efforts to prevent major chemical accidents. But CSB investigations show that much more needs to be done to assure that future tragedies will be avoided – the opportunity for meaningful reform is now. Thank you for the opportunity to submit written testimony for this important hearing today.

Senator CASEY. Mr. Michaels, I want to start with you. By way of full disclosure, most of my questions will be directed to you. Mr. Stanislaus, I won't let you off the hook and let you run because I do want to have a couple of follow-ups with you as well.

Let me start with you, Mr. Michaels, and go through a couple of basic issues. The concerns that I have raised and those raised in this hearing are not as significant or as heightened when you have a company doing the right thing in terms of safety and health and protecting workers and the work site.

If you don't have a company or a number of workplaces that insist on these tough rules, we have to rely upon what OSHA does. In your testimony, you said, "OSHA doesn't have the resources or capacity to inspect all facilities."

I noted in your testimony at the bottom of page six, you said, "OSHA has slightly more than 2,000 inspectors to cover workplace safety and health in over 7 million workplaces across the Country," a daunting task by any measure.

I wanted to ask you a question about the tools available to you, the civil and criminal penalties that are available and what we can do to strengthen them. First and foremost, with regard to the civil and criminal penalties now in place, what action should we take to make them a more effective deterrent?

Mr. MICHAELS. You are quite correct. We face a daunting challenge and we have many tools to encourage employers to do the right thing, but in every case, when we look at the United States we see there are literally millions of employers and we have a relatively small staff.

An effective deterrent involves having strong penalties. As I said in the question from Senator Franken, for many employers, our penalties are quite low and really aren't seen as being effective.

I was in a meeting recently with high level executives of the chemical industry and one of them said, I look at OSHA as a very expensive consultant. They will do an industrial hygiene inspection and we may have a penalty of $10,000, $20,000 or $30,000. We will learn quite a bit and that will be less expensive to us than bringing in an outside industrial hygiene firm to do the same work.

Congress has considered, in a number of pieces of legislation, increasing OSHA's penalties. I think that would have a very important effect on improving workplaces if employers saw the possibility of large penalties if they didn't abate hazards before we got there. That is our objective.

We want employers to make the changes before we inspect, or preferably not even have to inspect. The fear of a high penalty or the fear, in the most extreme cases, of criminal penalties would change the behavior of those employers who aren't doing the right thing.

Obviously, most employers would like to do the right thing, but we know that stronger penalties will move them in the right direction.

Senator CASEY. Can you give us some examples? Let us take a hypothetical. Say you have a plant that has an explosion of some dimension. Let us assume it is not as devastating as what happened in West, Texas.

Say there is an explosion and there are a number of injuries. Let us say it is limited to injuries that prevent 25 employees from returning to work right away but they will recover and can go back to work.

In that kind of more scaled down, limited instance where you may not have a death or a series of deaths, you may not have broad based and severe injuries. Walk us through what would be the process and the potential penalties just in that limited case.

Mr. MICHAELS. Penalties are based on hazards, not on the outcome. Obviously, if there are fatalities or injuries, we think the likelihood of that hazard being present before that explosion was very great. We do the investigation and determine whether or not the hazard was there and the gravity of the hazard. We can determine the gravity by the impact of the explosion and it affects us but it is still limited. For each violation, unless we show that it is willful, the maximum penalty is $7,000.

We have had fatalities where we had one violation and then if it is a small employer, we reduce that by as much as 60 percent. Then if they have no history of OSHA inspections, they have no bad history, we will reduce it further. This is sadly the case. After events where a worker was killed, we will have a $3,000 penalty.

In this explosion, if there was only one violation, we might issue a $7,000 penalty. That would be our maximum penalty. The West fertilizer incident, I don't remember the exact amount, but it was a relatively small penalty, well under $100,000. I think it was far, far less than that.

It could be one hazard, one violation that has resulted in the plant being destroyed, millions of dollars in damages and dozens of people injured. It is very limited, needless to say, and it makes us not a credible deterrent.

Senator CASEY. Senator Boozman is here and I want to make sure he gets some time. I want to allow him his time and extra time if he needs it.

Let me get back to this because I don't consider what you just outlined in any way a deterrent. No, there is not an ounce of deterrence in what you just outlined, in my judgment.

Senator Boozman.

Senator BOOZMAN. Thank you, Mr. Chairman.

Mr. Stanislaus, does EPA intend to convene a Small Business Regulatory Enforcement Fairness Act panel to address small business' interest regarding changes to the RMP rule?

I know we all want things done in a timely manner. The other side of that is we want it done right. These are difficult things, they are complex and the key is getting something done, yet we want the appropriate thing done. Are you going to take that step to ensure openness and transparency?

Mr. STANISLAUS. At this point, we are still evaluating the 100,000 comments and trying to determine which of those measures we would move forward and propose regulation and in doing so, what impacts small businesses and figure out how we can best engage small business.

We have not made a determination at this point.

Senator BOOZMAN. I would encourage you to do that. We want a good product, we want input from the people who are out fighting this battle on every level so that we can have a good product.

What progress is being made by your agencies, this is directed to both of you, to help identify outliers, those companies that do not participate in the relevant programs of industry associations or do not apply generally recognized best practices? How many outliers have you identified since the West, Texas incident and what steps have your agencies taken to help them with compliance?

Mr. Michaels, did you say there were 7 million businesses?

Mr. MICHAELS. Between 7 to 8 million workplace establishments.

Senator BOOZMAN. Of those 7 to 8 million, many are very low risk. How many workplaces are there out there you consider high risk that need to be more closely watched than others?

Mr. MICHAELS. I would have to get back to you with an exact number, but we are talking about millions.

Senator BOOZMAN. That is an important distinction. Out of that 7 to 8 million, some of them might be doing routine things they should not be doing. There are certainly some industries more important with regard to safety than others.

Mr. MICHAELS. Absolutely, and we prioritize our inspections based on hazards or injury rates. On the other hand, we regularly see, fortunately infrequently, fatalities and injuries at low hazard workplaces. We have programs that aim at different types of workplaces but we cannot ignore them.

Senator BOOZMAN. I understand.

Mr. MICHAELS. We prioritize, obviously.

Senator BOOZMAN. I understand.

The other thing that struck me was you mentioned that a business essentially said, we are going to have a violation, you guys are going to come in and slap them on the wrist, fine them or whatever.

Are we in a situation where these things are so complex that a company cannot go to OSHA and understand the rules that you don't have to go through some convoluted situation like that or you have to hire a team that comes in and costs a tremendous amount of money to understand the regulations?

Can we not get to a situation where companies can actually understand these rules without entering something like that?

Mr. MICHAELS. Senator Boozman, I am so glad you asked me that question.

We have a program in every State in the Country which provides free, onsite inspections without any sort of penalty or citation to small and medium-sized employers. We pay 90 percent of it, the State pays 10 percent. It is located in the State to make it clear it is independent from Federal OSHA.

In some cases, it is the State labor department and in some cases it is a university. We strongly encourage employers to call them. They get the OSHA inspection and all the information without the risk of a citation to absolutely address that. We far prefer that is the contact with OSHA rather than having one of our inspectors come in and issue citations.

Senator BOOZMAN. The larger employers?

Mr. MICHAELS. We have compliance assistance specialists in virtually every one of our offices. We have a tremendous amount of information on our website. We get millions of hits every year.

We don't want any hazard to exist because an employer doesn't understand the rules or what the hazard is. We really go the extra mile to get out that information. We find many employers appreciate that and try to do the right thing.

Some need to be encouraged more strongly. Frankly, the fear of inspection gets employers into that system. We like that to happen. We like them to get into that system and get that help before we inspect.

Senator BOOZMAN. In regard to the outliers, people who aren't following best management practices, can you comment on that?

Mr. STANISLAUS. Immediately after the incident in West, Texas, EPA and DHS looked at whether there were any outliers among our different data bases and we did a cross review. We identified 13 facilities that should have filed. We have notified them and our regional office is working with them to make sure they do the product hazard analysis and all the steps to prevent risk.

The lesson learned from that is we need to automate the system. It is called the Federal Registry Service and it contains 90 different Federal and State systems. We have included all the DHS and CFAS data as we are able to automatically look at non-complying facilities. This is a first step toward making a more comprehensive, more automated effort on non-compliers.

We also have worked with State and local response officials and given them information to identify non-compliers. One thing they identified to us is when an enforcement action happens among all the chemical facilities, that is the indication to them that they should pay attention. We are providing that information to them.

I also want to compliment some of the efforts of some of the trade associations. The American Chemistry Council has recently begun doing training sessions around the Country, inviting both members and non-members. Part of it is education, so they are doing it directly.

We are also providing information to ourselves, through our data bases, of the various regulatory responsibilities so entities can identify their potential application of existing Federal regulations.

Senator BOOZMAN. Very good.

Mr. MICHAELS. You have raised a very tough question, how do we identify those companies that aren't following the right procedures.

We start new procedures in that area around safety where we are identifying those companies where workers are at high risk for severe injury, for example, by having new reporting requirements.

When a worker is seriously injured, starting January 1, employers will have to call us and we will go out there, in some cases, or get on the phone with them. We are finding, even before it begins, when we look at some of our fatalities, some of the most serious injuries we hear about, these are from companies that were never on our radar. They didn't come up in our Dun and Bradstreet searches of these industries.

When we talk about disasters, the likelihood of an explosion or a chemical hazard, that is much tougher because you don't have

the precursor that we know about. We are working with these various industries to identify the characteristics we can pick out. If we can do that, we will start doing some more inspections but it would be a great challenge to us.

Places like West Fertilizer were never on our radar screen. There are hundreds of places like that. That was probably never compared to any of the other ones. It is tough.

Senator BOOZMAN. Thank you all.

Again, I am encouraged that industry is working hard, along with you, to try and fix these problems. I think that is another reason that hopefully we can involve them in the rulemaking process, that they are out and about and trying to educate. I think they can provide tremendous positive feedback.

Thank you very much, Mr. Chairman.

Senator CASEY. Thank you very much, Senator.

I know we have a vote that has started so we will be wrapping up soon.

I have just a few more questions for both of our witnesses.

Mr. Michaels, I wanted to ask a question about the Process Safety Management Standard which, pursuant to your testimony, is about 20 years old. In the context of that, can you walk us through what gaps exist in our current Process Safety Management Standard and how those gaps, if there are, may be putting both workers and communities at risk?

Mr. MICHAELS. The PSM standard dates back 20 years or a little more. We started it quite a bit of time before that.

Senator CASEY. Can you define it so that people know?

Mr. MICHAELS. Process safety management is essentially dealing with the processing of chemicals. The concern was the release of chemicals either in just the form where they can be inhaled or released in the situation where there can be an explosion or a fire.

Senator CASEY. These standards are a way to manage that?

Mr. MICHAELS. Exactly. These are system standards. We don't have very specific rules saying this is exactly what you just do for each chemical.

We tell employers they have to evaluate the situation, essentially do a process safety analysis to look at what are the hazards associated with each chemical, how they are addressing it and come up with a plan.

They have to involve workers in that plan, evaluate that plan on a regular basis and make sure it works.

It is a very good standard but it is outdated. Areas like reactive chemicals, for example, we don't have a rule that says employers have to look at the potential of different chemicals in their system of reacting with each other and then causing a new set of hazards.

Many employers address that. Obviously the ones that know what they are doing are very concerned about that and do the right thing, but because we don't require it, not every employer takes that approach.

That is one we are looking at. We have asked questions in this Request for Information about that. We hope to address that based on the information we get.

Senator CASEY. If you can, describe or outline some of the potential risks or potential costs of not expediting an update to those standards.

Mr. MICHAELS. We would like to move as quickly as we can. This was something I began to say to Chairman Boxer. The regulatory process is very slow. We have a process which involves multiple steps and a huge amount of stakeholder input.

We started the process with this Request for Information. We will be doing our small business regulatory fairness hearings later on in 2015 where we will involve representatives of small business to talk about some of the changes we are considering.

Based on that information, we will then do extensive economic and technological analyses to make a proposal. That then begins this process where we will have public hearings and input. It will take a while.

Relatively simple standards take 5 years or more and complex ones can take more than that. It is a shame. It means there is no way we will update this in the next couple of years.

Fortunately, even the process will make things a little bit better because employers will get involved and see what they need to do, but our ability to enforce stronger standards will take, unfortunately, years and maybe even 5 years or more.

Senator CASEY. I know we have to wrap up. I will just ask you one more question and then come back to you both for a final one.

In your testimony, looking at page 10 going over to page 11, you have two itemized potential legislative initiatives to improve worker protection. No. 1 is coverage for all workers and No. 2 is increasing the penalties. Can you walk through those two?

One of the things we try to do here is elicit testimony that will lead us to legislative solutions. We don't believe that legislating cures all problems but once in a while we can work together on a problem and get it right.

Mr. MICHAELS. The major concern that has come up in these events and I tried to address in my testimony is OSHA coverage of emergency responders. Most of the people killed at West, Texas were actually emergency responders and they were volunteers.

I believe at the DuPont facility, we are looking at this now, two of the workers who were killed rushed to the scene to save the other two people who were there.

Our coverage of emergency responders is really a patchwork. Under Federal law, if you are a State or municipal employee and an emergency responder, a firefighter, you have no coverage in the Federal States. In Pennsylvania or Arkansas, those workers are not covered by Federal OSHA so there is no requirement that their employer make the proper planning to make sure they are safe.

In State plans, the State and municipal workers are covered. In three Federal States where there are State programs, Connecticut, New York and New Jersey, there are programs like that as well, and now Illinois as well.

Volunteers are covered differently. Many of these are volunteers. Some States cover volunteers based on their definition, others don't. There is some coverage from EPA but to come up with a consistent approach to provide OSHA coverage, requirements to plan,

to train, and to make sure these workers have the equipment they need to be safe, would be a tremendous advance.

These workers are heroes and they deserve that. This would be an issue for Congress. We would love to work with Congress on essentially making this patchwork of coverage one comprehensive, modern system. It will make sure emergency responders are safe.

Senator CASEY. At the end of your testimony, you said, "Ensure full protection of all emergency responders whether private sector, public sector or volunteers."

Mr. MICHAELS. That is right.

Senator CASEY. I know you have the section on the penalties but because we are short on time, we will leave that for the record and have others submitted for the record.

To wrap up, I have a question for both of you. As we know this is a hearing of the Environment and Public Works Committee and a subcommittee that I chair on the Health, Education, Labor and Pensions Committee, I will chair it for a couple more hours.

If a taxpayer was watching this hearing and knew a little bit about the subject matter but knew about what happened in West, Texas or other places, was justifiably concerned and even frightened by this, what can each of you tell them about what is going to happen that is measurable, significant progress in the next 6 months from both of your agencies? Can you do that in a minute and a half each? In other words, what can we expect in the next 6 months?

Mr. STANISLAUS. What we have done and will continue to do is inform their local planning and response officials so they can identify risk from chemical plants and take actions to minimize, prevent or respond to those risks and include local citizens in safe evacuations and safe shelter in place. Those are critical issues prominently heard throughout the Country.

Mr. MICHAELS. From OSHA's point of view, we have just released new guidance on the safe handling of ammonium nitrate. It is aimed at our staff to make sure we enforce much more clearly at all these facilities and now when we start visiting these facilities, we will be doing more of that.

We are also working very closely with trade associations and employers to make sure everyone in this industry understands exactly what the risks are and what we expect of them. We issued this last week and I think we will see some real impact over the next few months.

Senator CASEY. I would ask you both to infuse into your work the same sense of urgency that you have heard here and as articulated by Senator Boxer.

It is one thing to have us conveying a sense of urgency and worry about what might not get done if we don't push, but it is even greater outside with taxpayers and folks who are worried about this issue. We all have a responsibility and we want to make sure we are discharging ours in the oversight capacity.

Senator, do you have anything before we go?

Senator BOOZMAN. Mr. Chairman, I would ask unanimous consent to include comments from the Agricultural Retailers and the Fertilizer Institute in the record.

Thank you all for being here today.

Senator CASEY. Without objection.
[The referenced information follows:]

December 11, 2014

The Honorable Barbara Boxer
Chairman
Senate Committee on Environment and Public Works
U.S. Senate
Washington, D.C. 20510

The Honorable Tom Harkin
Chairman
Senate Committee on Health, Education, Labor and Pensions
U.S. Senate
Washington, D.C. 20510

The Honorable David Vitter
Ranking Member
Senate Committee on Environment and Public Works
U.S Senate
Washington, D.C. 20510

The Honorable Lamar Alexander
Ranking Member
Senate Committee on Health, Education, Labor and Pensions
U.S. Senate
Washington, D.C. 20510

RE: Joint Full Committee Hearing – "Oversight of the Implications of the President's Executive Order on Improving Chemical Facility and Security"

Dear Chairman Boxer, Chairman Harkin, Ranking Member Vitter, Ranking Member Alexander:

On behalf of the members of the Agricultural Retailers Association (ARA) and The Fertilizer Institute (TFI), we would like to share with you the progress our industry has made to ensure that fertilizer storage and handling facilities operate as safely and securely as possible.

The Agricultural Retailers Association is a nonprofit trade association representing the interests of retailers and distributors across the United States on federal legislative and regulatory issues in Washington, D.C. ARA members range in size from family-held businesses or farmer cooperatives to large companies with multiple outlets located in many states. Most retail facilities are located in small, rural communities.

The Fertilizer Institute is the leading voice for the nation's fertilizer industry. TFI members include producers, importers, retailers, wholesalers and distributors of fertilizer and companies that provide services to the fertilizer industry. Its membership is served by a full-time Washington, D.C., staff in various legislative, educational and technical areas as well as with information and public relations programs.

On behalf of both of our associations and our members, we continue to extend our thoughts and prayers to the families impacted by the West Fertilizer Company tragedy in West, Texas in 2013.

We are an accountable and responsible industry committed to the safety of the communities in which we operate. Our employees live and work in communities small and large across the country, and nothing is more important than protecting our workers and their neighbors. We continue our commitment to working with the investigators and regulators to understand the cause or causes of the West Fertilizer Company tragedy and are taking appropriate actions to prevent and/or mitigate future incidents from occurring.

On March 6, 2014 Mr. Billy Pirkle, Senior Director of Environment, Health and Safety, Crop Production Services, testified on behalf of The Fertilizer Institute before the Senate Committee on Environment and Public Works at the hearing entitled "Preventing Chemical Threats and Improving Safety: "Oversight of the President's Executive Order on Improving Chemical Facility Safety and Security." During his testimony, which is enclosed for your reference, Mr. Pirkle highlighted our industry's commitment to supporting and enhancing fertilizer retailers' awareness and compliance with current federal safety and security regulations.

Specifically, Pirkle officially announced the formation of ResponsibleAg, an industry-supported stewardship initiative to assist fertilizer storage and handling facilities achieve and maintain compliance with existing federal laws and regulations.

ResponsibleAg is a non-profit organization to promote the public welfare by assisting agribusinesses as they seek to comply with federal environmental, health, safety and security rules regarding the safe handling and storage of fertilizer products. The organization provides participating businesses with a federal regulatory compliance assessment relating to the safe storage and handling of fertilizers, recommendations for corrective action where needed, and a robust suite of resources to assist in this regard.

Any business that stores or handles fertilizer products (manufacturers, wholesalers, distributors and retailers) is eligible to participate in the ResponsibleAg Certification Program. The focus of the program for the first three years will be on companies that store and handle ammonium nitrate fertilizer and/or anhydrous ammonia fertilizer.

ResponsibleAg has compiled a checklist of current federal regulatory requirements applicable to the storage and handling of fertilizer products. The checklist, developed by a technical committee comprised of industry regulatory professionals, contains more than 320 questions. Auditors credentialed under the ResponsibleAg Certification Program will use this checklist to assess the level of compliance at each participating facility.

The scope of the assessment is determined by the participating facility. All participants are required to have a base assessment for the storage and handling of fertilizer products. A participating facility may choose to add supplemental areas at their discretion. For example, if a facility also handles agricultural chemicals, it may add a supplement to the base assessment that would cover the storage and handling of these products.

Participating facilities will receive an assessment by a credentialed ResponsibleAg auditor once every three years. Up to seventeen areas of a facility are assessed by an auditor. (Examples of these areas include dry fertilizer, liquid fertilizer, anhydrous ammonia, shop, office and grounds.). The auditor will enter their findings into the secure portal on the ResponsibleAg website (www.responsibleag.org) within 24 hours of completing the assessment. After it is entered, the facility will receive (if applicable), a corrective action plan listing any issues that were discovered by the auditor as well as a timeline for addressing any issues identified by the auditor. Certification may not be obtained until all outstanding issues are addressed.

In October 2014, with the assistance of the Asmark® Institute, the Ford B. West Training Facility, Owensboro, Kentucky was officially opened for business. We are pleased to inform you that the first auditor training classes were held in October and additional training classes will commence in December and throughout 2015. Additionally, we are excited to announce that facility registration is now open. Facility assessments will begin in 2015.

TFI and ARA are dedicated to ensuring the success of ResponsibleAg because it is the responsible thing to do for our employees, customers and neighbors. We are proud of the critical work we do to help farmers provide the food, fuel and fiber for the world and we strive to do this as safely and securely as possible.

Fertilizer Safety and Health Partners Alliance

This year ARA requested that OSHA set up an Alliance program in order to improve communication between agricultural retailers and first responders regarding workplace hazards and the safe storage and handling of fertilizers. The Fertilizer Institute, the Volunteer Fire Council and the Ammonia Safety Training Institute along with the U.S. Environmental Protection Agency (EPA), the U.S. Department of Homeland Security (DHS) have also joined this important effort. We are currently working to finalize documents outlining the goals and projects of the Alliance. The official Fertilizer Safety and Health Partners Alliance is anticipated to be finalized early in 2015.

- Initiatives to be performed by the Alliance include:
    - A **joint commitment to worker safety and health** to prevent workplace fatalities, injuries, and illnesses.
    - Conducting **Best Practices Seminars/Webinars on effective emergency response procedures** for between volunteer fire fighters and industry partners.
    - The development of **compliance assistance/online tools and resources** for retailers and first responders

- Development of **case studies** focusing on injuries and fatalities in the agricultural retail industry that result from ammonia releases or AN fires.
- Update and promote Fertilizer Grade Ammonia Nitrate (FGAN) Guidance and Government Alerts

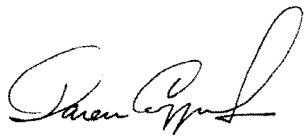
It should be noted that Alliance Program participants do not receive exemptions from OSHA inspections or any other enforcement benefits.

We believe that one of the most effective solutions to prevent another tragedy like West, Texas lie within initiatives like the OSHA Alliance Program. While we believe that smart regulations are necessary, they are only effective if the regulated community is aware of the rules, understands what it takes to be in compliance with the rules, and the rules are consistently enforced. We look forward to developing this partnership which we believe compliments our efforts with ResponsibleAg.

Conclusion

ARA and TFI remain steadfast in our commitment to ensuring that our members and the entire fertilizer industry have the tools and information necessary to operate our businesses as safely and securely as possible. By supporting programs such as ResponsibleAg, we hope to demonstrate that the fertilizer industry is committed to safety and security both through our voluntary actions as well as a willingness to examine and as appropriate, revise existing policy positions in the wake of the West, Texas incident. We would like to thank you again for the opportunity to submit our comments and we look forward to continuing to work with you on this important issue.

Sincerely,



Chris Jahn
President, The Fertilizer Institute

Daren Coppock
President & CEO, The Agricultural Retailers Association

Enclosures

Senator CASEY. Our hearing is adjourned.

[Whereupon, at 10:45 a.m., the hearing was adjourned.]

[Additional material submitted for the record follows.]

IME
institute of makers of explosives

The safety and security institute of the commercial explosives industry since 1913

March 18, 2014

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

The Honorable David Vitter
Ranking Member
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

"Preventing Potential Chemical Threats and Improving Safety: Oversight of the President's Executive Order on Improving Chemical Facility Safety and Security"

Dear Chairman Boxer and Ranking Member Vitter:

On behalf of the members of the Institute of Makers of Explosives (IME)[1], I am submitting a statement for the record on the full Committee hearing you held March 6, 2014 to look at the progress being made by the Interagency Working Group established under Executive Order 13650 concerning improvement of chemical facility safety and security.

Interest of IME

IME represents U.S. manufacturers and distributors of commercial explosive materials and oxidizers, as well as other companies that provide related services. Millions of metric tons of high explosives, blasting agents, and oxidizers are consumed annually in the United States. Of this, IME member companies produce over 98 percent of the high explosives and a great majority of the blasting agents and oxidizers, including ammonium nitrate prill (AN). These products are used in every state and are distributed worldwide.

Over 90 percent of the material used in the manufacture of bulk explosives is the oxidizer AN. There is no viable substitute for this material short of reverting to the use of nitroglycerine-based explosives, which the industry transitioned from on a wide scale in the last century for reasons of safety.[2] The "technical grade" AN (TGAN) used in our industry has the same chemistry as the AN used by the agricultural industry; both are classified as a Division 5.1 oxidizer.

Today, approximately 75 percent of AN consumed annually in the United States is used by the explosives industry. This number, in comparison to the amount used by the agricultural sector, has

[1] IME is a nonprofit association founded in 1913 to provide accurate information and comprehensive recommendations concerning the safety and security of commercial explosive materials. IME does not sponsor trade shows or other marketing events.
[2] The transition from nitroglycerine-based to AN-based explosives is a successful example of industry's voluntary application of so-called "inherently safer technology."

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been increasing. Of the eight plants that manufacture AN in the United States, six produce only TGAN for our industry, and two produce for both the agricultural and explosives markets. Managed properly, AN is a stable, reliable raw material that has played a significant role in our industry's quest to produce less sensitive, more effective explosives.

Recommendations of the Chemical Safety Board

At the hearing, Chairman Boxer quoted a Chemical Safety Board (CSB) recommendation that explosive hazardous chemicals including ammonium nitrate (AN) be added to the list of chemicals regulated under the Environmental Protection Agency's (EPA) Risk Management Program (RMP). While we have great respect for the CSB, we do not think that adding AN or explosives to the RMP is necessary or even within the scope of the RMP program.

When Congress passed the Clean Air Act Amendments of 1990, Section 112(r) required EPA to publish regulations and guidance for chemical accident prevention at facilities using substances that posed the greatest risk of harm from "accidental releases" to the air. Guidance implementing the program focuses on "atmospheric dispersion modeling" and substances in a gas or liquid form. The AN used for blasting in our industry is a solid prill.

AN is not self-reactive, and does not pose a threat of an accidental release of energy or fumes unless subjected to external stimuli such as substantial and sustained heat (e.g., fire) or shock from high explosives. However, the manufacture and storage or AN are regulated under the Occupational Safety and Health Administration's (OSHA) rules at 29 CFR 1910.109(i). We are unaware of any accidental detonation of AN where these OSHA rules have been complied with. In addition, AN is subject to various safety and security regulations of the Departments of Transportation (DOT), Homeland Security, and Justice[3], as well as EPA rules under the Emergency Response and Community Right-to-Know Act.

The insensitivity of AN and the blasting agents that are manufactured with AN renders them highly unlikely to mass-detonate during manufacturing, storage, and transportation. DOT acknowledges the insensitivity of these materials by authorizing their transport as so-called "Table 2" materials without imposing the safety precautions for the transportation of Division 1.1, 1.2, or 1.3 "Table 1" explosives. Likewise, OSHA has never regulated AN or blasting agent manufacturing under the Process Safety Management program, finding that "blasting agents . . . do not pose the potential catastrophic consequences to employees required of chemicals subject to [PSM] and should be excluded from the PSM standard."[4] Similarly and appropriately, EPA does not apply RMP to these materials. AN and blasting agents do not pose the type of threat that RMP is intended to address, and their management is adequately and safely controlled under other federal programs.

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[3] DOJ's The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) regulates the acquisition, possession, and storage of explosives.

[4] 72 FR 18799, (April 13, 2007).

While the term "explosive hazard chemicals," as used at the hearing, was not defined, explosives classified by DOT as Division 1.1 materials were initially listed under RMP, but, following a settlement agreement with the agency, were delisted in 1998 based on EPA's determination that applicable ATF regulations and industry best practices would adequately promote safety and accident prevention.[5] ATF's rules require setback distances for all explosives used in our industry such that the likelihood of offsite consequences are negligible.[6] As part of the settlement agreement, IME member companies that manufacture or store Division 1.1 explosives agreed to "prepare emergency response plans . . . notify Local Emergency Planning Committees and other local authorities . . . of the type, quantity, and location of [the explosives] at the site, and provide such plans to local emergency responders." IME members further agreed to, "respond to reasonable requests for information about the type, quantity, and location of any Division 1.1 explosive on site that may be made by those local authorities."[7] The notification provisions of the settlement agreement apply to temporary as well as fixed sites, and they are in addition to notification requirements set by ATF.[8]

West, TX

The accidental detonation of AN at the West Fertilizer distribution facility in West, TX has appropriately focused attention on the safety of AN. While we are still waiting for the CSB to determine the root cause(s) of the tragedy and issue a final report, it is evident that the facility failed to follow OSHA's basic, easily-understood safe storage rules. Still, the incident prompted our industry to review our best practices and to determine whether there were safety practices that should be enhanced for the protection of our workers, the public and emergency responders. This effort resulted in the publication of the attached *Safety and Security Guidelines for Ammonium Nitrate* (Guidelines). Among other things, the Guidelines build on OSHA's 1910.109(i) safety standard with four important recommendations:

- A prohibition on the use of combustible materials for bins and structural materials in immediate contact with AN (i.e., no wooden bins).
- An admonition to not fight fires that have engaged AN (no offsite firefighters should approach a fire involving AN; the appropriate and immediate response is to evacuate).
- A recommendation that all AN sites develop and implement a written emergency response plan, provide training to all employees, and provide the plan to local first responder organizations (several existing OSHA regulations set out appropriate plan elements).
- A recommendation that AN storage facilities located on mine sites follow §1910.109(i).

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[5] 63 FR 640, (January 6, 1998).
[6] 27 CFR 555.218-220.
[7] Settlement Agreement between the Institute of Makers of Explosives and the U.S. Environmental Protection Agency; API v. EPA, No. 94-1276 (Mar. 15, 1996).
[8] 27 CFR 555.201(f).

The Guidelines and been endorsed by the International Association of Fire Chiefs, as well as the National Stone, Sand, and Gravel Association, and the International Society of Explosives Engineers. We urge consideration of these safety recommendations rather than an attempt to expand RMP to cover AN or explosives.

Conclusion

Existing federal regulations applicable to AN, blasting agents, and explosives, with enhancements noted in our Guidelines, are sufficient to ensure safe handling and management of these materials. The expansion of RMP to our industry will not materially further safeguard the public or the environment. Additional requirements will likely only be implemented by the compliant industry. Agencies cannot ignore their enforcement and outreach responsibilities if the outlier problem is to be addressed. The outlier lessons from West, TX should resonate across all chemical regulatory programs. Congress should not lose sight of its responsibility to protect legitimate commerce from unnecessary restrictions or burdens, and focus on outliers whose misuse and unsafe or insecure handling of hazardous chemicals creates undue risk to workers, emergency responders, and the public.

We appreciate the Committee's attention to our perspective and recommendations.

Respectfully,

Cynthia Hilton

Cynthia Hilton
Executive Vice President

Attachment

Opening Statement for Senator Robert P. Casey Jr.

EPW-HELP Hearing – Oversight of the Implications of the President's Executive Order on Improving Chemical Facility and Security

Thursday December 11, 2014

On April 17, 2013, approximately 30 tons of ammonium nitrate fertilizer detonated during a fire at a fertilizer plant in West, Texas, killing at least 14 people, causing injury to over 200 individuals, and damaging nearby schools, homes, and a nursing home. More recently, this past November, four workers died and one was injured at a chemical plant in La Porte Texas after the release of a hazardous chemical.

These terrible incidents have raised concerns about the risks posed by similar facilities across the country. Almost every state has some communities at risk of experiencing a catastrophic event stemming from poorly regulated chemical or ammonium nitrate storage facilities, so this is an issue that affects a lot of workers and a lot of communities all across the country.

The Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and the Department of Homeland Security (DHS) play a central role in protecting workers and communities all across the country from chemical accidents. It is imperative that these agencies work together to prevent chemical accidents and keep our workers and communities safe by sharing relevant information and ensuring facilities are held accountable for complying with applicable regulations.

I'd like to recognize and thank the Administration for recognizing the severity of these recent disasters and taking action by issuing Executive Order #13650 on August 1, 2013, directing these agencies to lead an effort to improve operational coordination amongst federal agencies, as well as with state and local partners, to modernize policies, regulations, and standards.

Additionally, several Members of Congress, including myself and Chairman Boxer, asked the Government Accountability Office (GAO) to look closely for potential regulatory gaps that leave workers and nearby communities inadequately protected against these types of catastrophic chemical incidents.

I applaud every one of the Agencies involved in the Executive Order working group and the GAO for the work that was put into their final reports. They are very thorough and include great recommendations. But now it is time to roll up our sleeves and turn words into action.

We know that sometimes reports like these are written only to be forgotten and that, unfortunately, little is ever done to correct the problems that were identified. I can assure you that we in Congress will not forget about this issue – it is too important to workers and public safety – and we will not let your agencies forget about it either.

In this hearing, we should do three very important things:

- **Ensure that data collection and information sharing issues have been properly identified and that effective plans are in place to correct the problems**
- **Discuss timelines for implementation of the regulatory changes recommended by the GAO and the Executive Order workgroup**
- **Determine if any additional Executive or Legislative actions are needed to ensure the safety and security of American workers and communities from the dangers associated with hazardous chemicals, such as ammonium nitrate**

I look forward to hearing the testimony today and working together, with other concerned Members and each of the Agencies that have regulatory jurisdiction, to better protect workers and the public from the dangers of improperly stored and poorly regulated hazardous chemicals, like ammonium nitrate.

Some progress has been made in identifying the problems, but much is left to do in order to implement the changes needed to ultimately create safer workplaces and communities and to avoid future preventable disasters like what occurred last April in West, TX and last November in La Porte Texas.

Chairman?

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