STATEMENT OF

DAVID MICHAELS, PHD, MPH
ASSISTANT SECRETARY
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
U.S. DEPARTMENT OF LABOR

BEFORE THE

COMMITTEES ON
HEALTH, EDUCATION, LABOR AND PENSIONS AND
ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

DECEMBER 11, 2014

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 a 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.