

**PREVENTING POTENTIAL CHEMICAL THREATS
AND IMPROVING SAFETY: OVERSIGHT OF THE
PRESIDENT'S EXECUTIVE ORDER ON IMPROVING
CHEMICAL FACILITY SAFETY AND SECURITY**

HEARING
BEFORE THE
COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
ONE HUNDRED THIRTEENTH CONGRESS
SECOND SESSION

—————
MARCH 6, 2014
—————

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



Available via the World Wide Web: <http://www.gpo.gov/fdsys>

U.S. GOVERNMENT PUBLISHING OFFICE

97-586 PDF

WASHINGTON : 2015

For sale by the Superintendent of Documents, U.S. Government Publishing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED THIRTEENTH CONGRESS
SECOND SESSION

BARBARA BOXER, California, *Chairman*

THOMAS R. CARPER, Delaware	DAVID VITTER, Louisiana
BENJAMIN L. CARDIN, Maryland	JAMES M. INHOFE, Oklahoma
BERNARD SANDERS, Vermont	JOHN BARRASSO, Wyoming
SHELDON WHITEHOUSE, Rhode Island	JEFF SESSIONS, Alabama
TOM UDALL, New Mexico	MIKE CRAPO, Idaho
JEFF MERKLEY, Oregon	ROGER WICKER, Mississippi
KIRSTEN GILLIBRAND, New York	JOHN BOOZMAN, Arkansas
CORY A. BOOKER, New Jersey	DEB FISCHER, Nebraska
EDWARD J. MARKEY, Massachusetts	

BETTINA POIRIER, *Majority Staff Director*
ZAK BAIG, *Republican Staff Director*

C O N T E N T S

Page

MARCH 6, 2014

OPENING STATEMENTS

Boxer, Hon. Barbara, U.S. Senator from the State of California	1
Carper, Hon. Thomas R., U.S. Senator from the State of Delaware	3
Markey, Hon. Edward J., U.S. Senator from the State of Massachusetts	4
Barrasso, Hon. John, U.S. Senator from the State of Wyoming	5
Vitter, Hon. David, U.S. Senator from the State of Louisiana	65
Udall, Hon. Tom, U.S. Senator from the State of New Mexico	70
Inhofe, Hon. James M., U.S. Senator from the State of Oklahoma, prepared statement	234

WITNESSES

Stanislaus, Hon. Mathy, Assistant Administrator for Solid Waste and Emergency Response, U.S. Environmental Protection Agency	7
Prepared statement	9
Responses to additional questions from:	
Senator Boxer	25
Senator Markey	26
Senator Vitter	31
Moure-Eraso, Hon. Rafael, Chairman, U.S. Chemical Safety Board	38
Prepared statement	40
Responses to additional questions from:	
Senator Boxer	47
Senator Vitter	50
Wilson, Michael P., Ph.D., MPH, Chief Scientist, Office of the Director, California Department of Industrial Relations	71
Prepared statement	74
Frederick, James S., Assistant Director of Health, Safety & Environment, United Steelworkers International Union	84
Prepared statement	86
Responses to additional questions from:	
Senator Boxer	90
Senator Vitter	93
Hansen, Evan P., President, Downstream Strategies	100
Prepared statement	102
Responses to additional questions from Senator Vitter	108
Pirkle, Billy, Senior Director, Environment, Health and Safety, Crop Production Services	111
Prepared statement	113
Response to an additional question from Senator Boxer	133
Responses to additional questions from Senator Vitter	134
Berger, Scott, Executive Director, Center for Chemical Process Safety, American Institute of Chemical Engineers	223
Prepared statement	225
Response to an additional question from Senator Boxer	228
Responses to additional questions from Senator Vitter	229

ADDITIONAL MATERIAL

Letter from the Institute of Makers of Explosives to Senators Boxer and Vitter, March 18, 2014	236
--	-----

IV

	Page
Safety and Security Guidelines for Ammonium Nitrate, from the Institute of Makers of Explosives and the National Stone, Sand & Gravel Association, December 13, 2013	240
Testimony of Peter S. Silva, Assistant Administrator for Water, U.S. Environmental Protection Agency, October 1, 2009	253

**PREVENTING POTENTIAL CHEMICAL
THREATS AND IMPROVING SAFETY: OVER-
SIGHT OF THE PRESIDENT'S EXECUTIVE
ORDER ON IMPROVING CHEMICAL FACIL-
ITY SAFETY AND SECURITY**

THURSDAY, MARCH 6, 2014

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

The committee met, pursuant to notice, at 10:01 a.m. in room 406, Dirksen Senate Office Building, Hon. Barbara Boxer (chairman of the committee) presiding.

Present: Senators Boxer, Vitter, Carper, Udall, Markey, and Barrasso.

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

Senator BOXER. We come to order.

Senator Vitter is on the floor of the Senate; he will get here when he can.

Today this committee continues its important oversight of efforts to improve the safety and security of chemical facilities across this Nation. The long list of chemical disasters in recent years demonstrates that we need urgent action.

In August 2012 there was a pipe failure at a refinery in Richmond, California which formed a vapor cloud that ignited and injured six workers. Toxic smoke caused approximately 15,000 people to seek medical treatment.

Then in April 2013 a massive explosion and fire in West, Texas, destroyed a fertilizer plant and caused widespread destruction, with 15 people dying and hundreds of people injured and homes, businesses, and three unoccupied schools damaged or destroyed.

In June 2013, an explosion at a petrochemical refinery in Louisiana released more than 62,000 pounds of toxic chemicals, caused a serious fire, injured more than 100 people, and killed two workers.

We held a full committee oversight hearing on these explosions in June 2013, and then I spoke with President Obama about the need to act, and he took a very important step forward. In August 2013, the President issued Executive Order 13650, Improving Chemical Facility Safety and Security, which established a working group to undertake a comprehensive review of Federal chemical

safety and security programs and develop recommendations for improving these programs.

In August 2013, EPA, OSHA, and ATF issued an advisory on the safe storage, handling, and management of ammonium nitrate, which caused the West, Texas, explosion, but much, much, much more remains to be done. In fact, yet another chemical facility disaster occurred in January in West Virginia, which brought to light an entirely new set of issues which deal with poorly maintained chemical storage facilities that are located adjacent to our Nation's drinking water.

An above-ground chemical storage facility near Charleston, West Virginia, failed, leaking thousands of gallons of toxic chemicals into the Elk River, a source of drinking water for over 300,000 people. The spill has terrible costs that continue to impact families and small businesses across West Virginia.

I have written to EPA Administrator McCarthy to request that the failures in the system brought to light in West Virginia be specifically addressed by the President's Working Group, and we will examine this issue. I am working with Senator Manchin and colleagues on both sides of the aisle on legislation to better protect our drinking water sources from threats posed by chemical facilities.

I am working with Senator Vitter, and I am hopeful he will join us in this effort. Whether he does or he doesn't, we are going to have a bill and we are going to mark up a bill. I am also working with a lot of the State people on this.

We have decided, because I had a good chat with Senator Vitter yesterday, he asked for more time. We are giving more time and the markup has been changed on that Manchin bill on West Virginia from the 12th of this month to Wednesday, April 2nd, at 11 a.m. So I hope members will make a note of that.

The ever growing list of catastrophic failures must be a wake-up call for all of us, including EPA, which does have existing authorities they ought to be using. Federal safety and health officials must use all tools available to protect the health and safety of people working in and living near chemical facilities.

We are here today to ensure that the Executive Order Working Group identifies ways to make real measurable improvements in the oversight of chemical facilities. We must act quickly for the good of the American people, because we don't want to be back here with postmortems of what could have, should have been done. We have to make sure we are inspecting these facilities, we know what to do if an accident does occur, but, most of all, we can prevent these failures because we have a very smart program in effect, and that is my goal as the chairman of this committee. And I know that everyone on this committee wants to stop these explosions and these leaks and these serious problems, but it doesn't happen by itself. People are well meaning but, frankly, we need a regimen in place, good practices that are followed.

So that is the purpose of this oversight hearing.

With that, I am very pleased to call upon my wonderful second-in-command here, Tom Carper.

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

Senator CARPER. Thank you, Madam Chair. I am pleased to welcome both of our witnesses here this morning, and thank you for your stewardship and thank you for your input.

Also, I think it is the first time we have been in the room since our new Senator from Massachusetts, Ed Markey, has joined us. He is an old friend, and it is just great to have him on this committee.

I wear two hats in this hearing. I am going to be in and out today, but I wanted to stop by and I will be back in a little bit. But I wear two hats today. One is I think of myself as Chairman Boxer's wingman, and on a good day she thinks of me as her wingman, too.

Senator BOXER. I do.

Senator CARPER. But I also chair the Senate Committee on Homeland Security and Governmental Affairs, so I look at it through the prism of both of those glasses. It is almost like a pair of glasses and one eye is EPW, the other lens is Homeland Security.

I am a native of West Virginia, and I have a lot of relatives who live around Charleston who didn't have any water to drink for a while, so that is on my mind and it is on the minds still of a lot of people in West Virginia and here, too.

But the problem that we are here to discuss and to hear from you about is not an easy one, but it is one that we all have to be concerned about resolving. Each of us, in our own States, have industries that work with dangerous chemicals. That is certainly true in Delaware; I know it is true in Massachusetts and California and other States that are represented here. Many of the substances, which are essential for industry, they are essential for our economy, are used for agricultural, other uses; for the most part well controlled, safely handled, and years can go by without any incidents.

Sometimes decades can go by without an incident. But sometimes, unfortunately, things do go wrong, as we know, and it is our duty to ask whether we could have done better, what we could have done so as to prevent the next incident from happening and prevent injuries and, in some cases, death.

That is why the President has issued his Executive Order, as you know, on chemical facilities, creating the Chemical Facility Safety and Security Working Group, and that is why we are here today to ask how we can do better. Everything I do I know I can do better. I think that is true of all of us. I think that is true of all of our governmental agencies, too, and, frankly, the private sector.

After the tragic example at West in Texas, as chairman of the Homeland Security Committee, I sent the Department of Homeland Security a long list of questions to help us figure out what went wrong. And their answers provided a great deal of insight, and I am glad that the Department of Homeland Security is a part of this Working Group; I think that is important.

I understand that along with other agencies such as EPA, which we are pleased to have here with us today, Working Group officials have already identified I think 9 or 10 sets of options that might

help us to improve our chemical facility safety and security. These include both mandatory and voluntary new safeguards, policies to encourage a shift to inherently safer technologies or the creation of a third-party audit system, and I am encouraged by the breadth and scope of the potential actions under consideration.

As the Working Group finishes up its work, we need to evaluate all of these options to figure out what might work better for both stakeholders and for the public, and I look forward to hearing the testimony of the panelists. I am going to slip out of here for a few minutes, but I will be back shortly and maybe join in the questions. But we are looking forward to you helping us to better evaluate the recommendations of the Working Group as they arise.

Thank you. Very nice to see you both.

Thank you, Madam Chair.

Senator BOXER. Senator, thank you so much. I know what it is like to be running back and forth; I do it many times.

It is just a real, frankly, honor to introduce for his first time in public here at this committee, Ed Markey, who I just want to take a minute to add to what Tom Carper said and say a true leader in protecting the health and safety of not only the people of his great State, but the people of the country. I am going to be very honest here and say something usually you don't hear chairmen say. I really asked for Ed to be put on this committee in this slot, and I couldn't be more pleased. So, with that, Senator Markey.

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

Senator MARKEY. Thank you, Madam Chair, and it is my honor, actually, to be on this committee with you as chair and Tom Carper and so many other great leaders. The issues that you are working on and leading on are going to largely determine the relationship between the American people and their environment; the safety of it, the security of it. So I am very pleased to be here.

The chemical sector represents the best of American technological might. Its products help to make our water safe to drink, make the microchips used in our iPhones and ICBMs, refine our oil, grow our food. But these same chemicals could also be turned into a weapon of mass destruction by terrorists. They could wreak havoc in the event of a catastrophic natural disaster. And as we have seen so recently in West, Texas, and West Virginia, human error can cause fatal accidents and massive economic and environmental damage.

Unfortunately, this is not a new story. On December 3rd, 1984, an accident at a pesticide plant in Bhopal, India, now owned by Dow, released 42 tons of toxic MIC gas, killing thousands of people and injuring many more. Safer substitutes existed even at the time, but these were not used. Even a simple change, like using smaller storage tanks, would have greatly reduced the consequences of a devastating accident.

But in the United States we didn't learn the lessons of Bhopal. In 2008, a chemical tank exploded at a Bayer factory in West Virginia, sending a fireball into the sky and killing two employees. That facility also stored large quantities of toxic MIC gas, the same as Bhopal. And just like the Bhopal facility, it could easily have

been using safer processes that eliminated or greatly reduced the need for the toxic chemicals in the first place.

It has been 6 years since that accident occurred, but we are still here hearing about accidents at chemical facilities, environmental damage, and the loss of human life, all of which was largely preventable.

Four years ago, while in the House of Representatives, I worked with my colleagues and in close consultation with the American Chemistry Council to craft legislation 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. But that effort did not become law.

The reality is that terrorists cannot blow up what is no longer there. Earthquakes, hurricanes, and other natural disasters can't spread toxic plumes if the toxic chemicals are replaced by safer alternatives. And while human error can never fully be eliminated, it is our job to reduce the consequences so that there is a dramatically reduced capacity for these chemicals to cause the disasters which they are capable of doing. There are safer processes. There are safer technologies. I look forward to hearing from our witnesses on how the Executive Order will incorporate the use of inherently safer chemicals and processes into our chemical safety regulatory framework.

I thank you, Madam Chair.

Senator BOXER. Thank you, Senator.

I am happy to say we are joined by Senator Barrasso.

I also want to announce we have, I believe, three votes at 11:20, so we are going to have to move and groove, so everyone has to be sharp and stay within the 5-minutes. Thank you.

Senator.

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

Senator BARRASSO. Thank you, Madam Chairman. I am pleased to have this hearing today as we discuss the issues surrounding chemical safety.

First, I would like to say that 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 1.5 billion pounds of ammonium nitrate each year in places like the Powder River Basin, and they use it to extract coal. At these mining sites, ammonium nitrate is mixed with fuel oil and pumped or poured into a blast hole which is fitted with an ignition system. The subsequent explosion heaves the rock to get the coal or the minerals out.

Through this process, Wyoming and other mining States can provide essential building materials, as well as affordable energy for families and small businesses around the country. Wyoming, West Virginia, Indiana, Kentucky, Nevada, Pennsylvania, Minnesota, Virginia, and Alabama are, in order, the leading ammonium nitrate explosives consuming States.

Ammonium nitrate is also the safer alternative in mining, having replaced nitroglycerin as the primary ingredient in chemical explosives, and saving lives in the process. Ammonium nitrate is a sta-

ble, relatively benign chemical when managed properly, and proper management is simple, easily understood, and accomplished.

Now, OSHA, not EPA, has issued rules to ensure that ammonium nitrate is managed properly at ammonium nitrate manufacturing and storage sites such as West Fertilizer; and, when it is, workers, first responders, and the public are protected. On October 9th, 2013, OSHA issued 24 citations to West Fertilizer. These violations alleged that the facility failed to properly store ammonium nitrate, including failing to eliminate sources of combustible materials, installing needed firewalls, and limiting bulk quantities of the material. The facility also did not provide proper ventilation or fire suppression in case of fire.

We also know that there are a series of Federal agencies that regulate ammonium nitrate. These agencies include OSHA, Homeland Security, the Department of Transportation, the EPA, the Department of Labor, the Department of Justice, the U.S. Coast Guard, and the ATF. This also does not include industry's own guidelines and best practices for managing ammonium nitrate.

Unfortunately, there appears to have been, and still appears to be, a lack of oversight in communications between regulatory agencies concerning noncompliant chemical facilities such as West Fertilizer. The solution proposed by some is additional regulation to be imposed by the EPA, in particular under the Agency's Risk Management Program. For reasons I have already mentioned, I believe there is no need for EPA to impose additional regulations on top of regulations that already exist but are not being properly enforced.

In fact, as I pointed out in the October 23rd letter to EPA Assistant Administrator Mathy Stanislaus, who is testifying before us today, his fellow panelist who is here, Mr. Rafael Moure-Eraso, he stated at our last hearing on this subject that he is not aware of any accidental explosions of ammonium nitrate where existing safety regulations of OSHA were followed.

It is my hope that we can ensure that Federal agencies work together to better achieve our goal of keeping communities safe. If additional regulations are required, I would hope that we consider those proposals through regular order. If we make a mistake and overregulate a needed chemical without all the facts, we could negatively impact mining and other commercial operations. The end result will be lost jobs for already struggling communities.

I will note that the Dyno Nobel plant in Cheyenne, Wyoming, is the second largest ammonium nitrate producing plant in the United States, producing 455,000 tons of ammonium nitrate a year. It employs 206 people, with an annual payroll of over \$15.2 million.

Thank you, Madam Chairman, and I look forward to the testimony.

Senator BOXER. Pray for the safety of that plant and all these plants, and I also think it is important for us to do more, because these explosions keep on happening. It doesn't necessarily mean new laws, you are right. But it certainly means we need to enforce the laws we have, and tighten them up and make sure they work. That is really the key.

So we are going to go to our first panel, and I hope that our EPA witness, Hon. Mathy Stanislaus, is going to tell us the progress

being made here by the working group. And I am looking forward to hearing Rafael Moure-Eraso, who has been such a strong voice for chemical safety.

So please proceed, Mr. Stanislaus.

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

Mr. STANISLAUS. Good morning, Chairman Boxer, Senator Carper, who I guess left, Senator Markey, Senator Barrasso. I am Mathy Stanislaus, Assistant Administrator of the U.S. Environmental Protection Agency's Office of Solid Waste and Emergency Response. Thank you for this hearing and the opportunity to testify on behalf of the Tri-Chair agencies that lead the Federal Working Group established under the President's Executive Order 13650.

President Obama and the Federal departments and agencies that make up the Working Group recognize the terrible loss suffered by families and communities as a result of chemical accidents and releases, and we are committed to working collaboratively with facility owners and operators, State and local tribal partners, local community residents, organizations and associations with an interest in improving chemical facility safety and security.

I will summarize my written testimony that describes the progress being made by the Federal Working Group, departments and agencies to implement the Executive Order.

Chairman Boxer, I want to first thank you for your longstanding support of efforts to protect communities from the risks posed by chemical releases and spills. In the aftermath of the tragic West, Texas, facility and explosion, the President, in fact, issued the Executive Order improving chemical facility safety and security on August 1st. One of the initial actions taken at the issuance of the Executive Order was the development by EPA, OSHA, ATF of a chemical advisory that provides information to communities, workers, first responders, and commercial sectors on the hazards of ammonium nitrate storage, handling, and management, and this was issued on August 30th.

Subsequently, in February 2014, the Assistant Secretary of Labor of OSHA sent a letter to the agricultural trade associations to provide more than 7,000 employees with the legal requirements and best practice recommendations for safely storing and handling ammonium nitrate.

Another Working Group effort underway is to cross-walk whether there are any outliers between facilities subject to DHS's Chemical Facility Anti-Terrorism Standard Top Screen data base and the Risk Management Plan data base. We in fact have identified a subset and have communicated to those facilities and asked them to provide information regarding whether those facilities are subject to the RMP program, and, also, DHS has done the same with the facilities identified under the RMP data base.

Last, I would note that the Working Group has stood up a pilot in New York, New Jersey with State and local emergency response officials to identify best practices and innovative methods so that the Federal Government, State government, local responders can

act in a coordinated way to prepare, reduce risk, and respond, if necessary.

I am also pleased to report that the President's fiscal year 2015 budget request strongly supports EPS chemical facility efforts. The budget requests \$27.5 million, an increase of \$12.5 million from fiscal year 2014, for EPA's support for State and local prevention preparedness efforts.

Let me also address the accident at the Freedom Industries facility in West Virginia. Chairman Boxer, you sent a letter yesterday to the administrator on that. EPA agrees the incident at the Freedom Industries facility that resulted in exposure of hundreds of thousands of people must be addressed by the Executive Order Working Group in a comprehensive fashion. And the comprehensive fashion, as laid out by the President, includes looking at elevated levels of Government, roles and responsibilities and expertise to prevent and, if necessary, plan and respond to activities. We identified a number of options to date and will continue to explore based on lessons learned from the West Virginia accident.

It should be noted that Freedom Industries did in fact provide the chemical information to the local emergency planning committee, so one of the things that we are committed to do, and as recommended by local and State emergency planning officials, is increase the technical capacity to identify risks, for example, to water resources, that must be addressed up front and, in some cases, prevent and relocate certain kinds of risks.

An excellent example of the local, State, and Federal infrastructure working is what the State of Oklahoma did upon the West Virginia incident. Based on the Federal EPCRA chemical inventory information, they work with the water utilities and the emergency response officials to map the locations of chemical facilities and water intakes within 1.2 miles of chemical facilities so that, one, there is a knowledge of the proximity and then, therefore, there can be local planning to prevent impacts to water resources. These are one of the best practices that we are looking to lift up and make a standard practice throughout the country.

Clearly, we cannot stop there. We clearly have to look at Federal authorities, as well as the role of State and local governments to prevent incidents in the future, as well as technical assistance to enable those that are on the front lines, the local responders and local emergency response officials, to better prepare and respond to events like West, Texas, and West Virginia.

I should note a vital part of the President's effort under the Executive Order is to really hear from people on the ground; to hear from local responders, from local community residents, to operators of local community facilities, to State officials. We have held 12 listening sessions around the country. Close to 2,000 people have participated in the listening sessions, and those recommendations from the variety of stakeholders are going to form the foundation for the recommendations that we plan to present to the President.

To highlight some key issues noted by key stakeholders—

Senator BOXER. Sir, unfortunately, your time has expired, so we are going to move on and we will get to you in the questions.

Mr. STANISLAUS. OK, sure. Great.

[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
UNITED STATES SENATE
March 6, 2014**

Good morning Chairman Boxer and members of the Committee, 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 behalf of the Tri-Chair agencies that lead the Federal Working Group established under Presidential Executive Order (EO) 13650. President Obama and the federal departments and agencies that make up the Working Group recognize the terrible loss suffered by families and communities as a result of chemical accidents and releases and we are committed to working collaboratively with facility owners and operators, state, local and tribal partners and organizations and associations with an interest in improving chemical facility safety and security. My testimony describes the progress being made by the federal Working Group departments and agencies to implement the EO.

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 directs 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.

One of the initial actions taken after issuance of the EO, was the development and August 30, 2013 release by EPA, the Occupational Safety and Health Administration (OSHA), and the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) of a chemical advisory that provides information to communities, workers, first responders and commercial sectors on the hazards of ammonium nitrate storage, handling, and management. We plan to update this advisory based upon feedback we have received from stakeholders. Further, in February of 2014, Assistant Secretary of Labor for Occupational Safety and Health Dr. David Michaels signed a letter that is being circulated by agricultural trade associations provide more than 7,000 employers with legal requirements and best practice recommendations for safely storing and handling ammonium nitrate. In addition, in January of 2014, EPA issued an Interim Chemical Accident Prevention Advisory for natural gas processing plants that store and process liquefied petroleum gas (LPG) to help raise industry awareness of current codes and standards that apply to these facilities. Meeting applicable codes and standards will help facilities achieve a level of protectiveness recognized in the industry as representing good engineering practice. Another Working Group effort underway is the work by DHS and EPA to compare the Chemical Facility Anti-Terrorism Standard (CFATS) 'Top Screen' database and the Risk Management Plan (RMP) database to determine if the CFATS database includes facilities that should have also reported under the RMP chemical accident prevention program. As a result, EPA transmitted notification letters to hundreds of facilities requesting information to help determine whether the facility is subject to requirements to implement a risk management program requiring submittal of a risk

management plan. Similar action was taken to identify potential CFATS outliers against the RMP database.

The Working Group also launched a pilot program in August of 2013, in New York and New Jersey to evaluate best practices and test innovative methods for interagency collaboration on chemical facility safety and security. Under the pilot program, the Working Group is formulating an understanding of chemical facility risk in that region, ensuring that local responders have access to key information and evaluating processes and protocols for information sharing. The pilot is also working to improve coordination of inspections by sharing inspection schedules, cross-training inspectors, and supporting inter-agency referrals of possible regulatory non-compliance as we work toward the development of a unified federal approach for identifying and responding to risks identified in chemical facilities.

FY 2015 President's Budget Request

The Clean Air Act requires the EPA to conduct audits and inspections at RMP facilities to ensure their compliance with applicable regulations. The EPA has identified approximately 13,000 RMP facilities nationwide. These facilities represent the largest identified stockpiles of highly toxic and flammable industrial chemicals in the United States. Of these, approximately 1,900 facilities have been designated as "high-risk" based upon their accident history, or extremely large quantity of chemicals on site, or proximity to large residential populations.

The FY 2015 Budget requests \$27.5 million, an increase of \$12.5 million from FY 2014 Congressional funding levels, for EPA support for state and local prevention and preparedness efforts. As part of agency FY 2015 priorities, the EPA will expand its prevention and response activities for risks at chemical facilities in fulfilling the EO to improve the safety and security of

chemical facilities. The EPA will expand support for local communities through the development of tools and technical support. This includes enhancing the CAMEO system to include development of a web app that provides easy accessibility for SERCs and LEPCs. This effort can also include developing, as appropriate: updates, alerts, advisories and other materials for regulated facilities, states, LEPCs, and emergency responders to assist them in preparing for chemical accidents and reducing chemical risks.

The EPA also plans to initiate a grant program with \$1.5 million in the FY 2015 budget request to assist local planners and first responders to facilitate the use of risk information available to them 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. A mechanism for data sharing with other federal agencies is planned for development, including identifying and implementing a process for comparing and analyzing various Federal databases of regulated chemical facilities in order to identify those facilities which have not complied with the federal regulations. This will augment additional efforts being done under the EO, including further aligning federal resources for local emergency response organizations.

In addition, the EPA plans to implement improvements to agency RMP and EPCRA programs. This could include developing and revising guidance and policies to better implement the RMP and EPCRA programs and potential clarifications or revisions to RMP regulations to improve facility prevention programs and reduce chemical risks to the community.

Stakeholder Outreach

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 persons have attended the listening sessions and more than 800 additional persons participated by conference call. The listening sessions were held in Texas City, Texas; Springfield, Illinois; Orlando, Florida; Sacramento and Los Angeles, California; Houston, Texas; Baton Rouge, Louisiana; Newark, New Jersey; and two in Washington DC. A broad cross section of stakeholders have attended and participated in the listening sessions. These include first responders such as firefighters from Commerce, California and police officers from Houston, Texas, state and local government officials representing cities such as Baltimore, Maryland and Los Angeles, California, environmental, community, and labor organizations such as the US Public Interest Research Group, the Houston Sierra Club, the Sacramento Environmental Working Group, the Louisiana Bucket Brigade, and the United Steel Workers, and industry and commercial sector representatives such as Chevron Phillips, Ashland Chemical, the Louisiana Chemical Association, Society of Chemical Manufacturers and Affiliates; Missouri Agribusiness Association, Institute of Makers of Explosives, , and the American Chemistry Council.

Information on the listening sessions can be found on the Working Group web page, a one-stop location that provides information and accepts comments from interested parties and can be accessed at www.osha.gov/chemicalexecutiveorder. Stakeholders can also submit written comments through email at eo.chemical@hq.dhs.gov or via the regulations.gov website (<http://www.regulations.gov/#!docketDetail;D=DHS-2013-0075>).

In addition to the listening sessions, three web-based community webinars have been held. EPA used its Technical Assistance Services for Communities (TASC) program to provide an additional option for engagement with community and other stakeholders. The webinars have

provided communities information about the Working Group effort and provided participants information about how to submit comments on the EO.

Coordination with State, Local, and Tribal Partners

Hazardous chemicals are located in many types of facilities and areas. It is important that communities know where hazardous chemicals are used and stored; how to assess the risks associated with those chemicals; and help ensure community preparedness for accidents or incidents that may occur. Many facility owners and operators rely on local resources for emergency preparedness and response, including first responders, emergency medical services, and hazardous materials response teams. Strong working relationships between stakeholders such as facility owners and operators, state, local, tribal partners, emergency responders, and communities, help support coordinated chemical safety and security efforts. To that end, the EO directed the Working Group to develop a plan to support and further enable efforts by Federal regulators and stakeholders to work together to improve chemical safety and security.

Based upon input from public listening sessions, meetings with stakeholder groups, webinars, and feedback submitted to the Federal agencies, the Working Group has proposed actions to support local planning, preparedness, communications, and response and improve stakeholder coordination in six key categories:

Expand engagement of the chemical regulated community in the local emergency planning process.

- Improve training and protection for first responders, including a comprehensive implementation and compliance strategy for Hazardous Waste Operations and Emergency Response regulations.

- Provide further technical assistance to State Emergency Response Commissions (SERCs), Tribal Emergency Response Commission (TERCs), Local Emergency Planning Committees (LEPCs), and Tribal Emergency Planning Committees (TEPCs) preparedness activities.
- Identify and coordinate federal funding sources for LEPCs and TERCs to sustain planning activities.
- Increase use of electronic reporting and data management.
- Improve public participation in LEPC emergency response planning and access to information about chemical facility risks.

The Working Group will further evaluate and refine the recommended action steps as it obtains feedback and additional information from stakeholder groups, assesses resources, and prioritizes activities. The Working Group will incorporate final actions into the comprehensive, integrated standard operating procedures for a unified approach for identifying and responding to chemical facility risks.

Expand Engagement of the Regulated Community in the Local Emergency Planning Process

While representatives from chemical facilities are involved in emergency-planning activities of some LEPCs, feedback received during listening sessions indicates that industry participation is not a consistent practice across the country and broader involvement across industry in this regard is needed. To improve participation in the local emergency planning process, the Working Group is evaluating a number of short and longer term actions items.

Short-term actions include:

- During Authorization and Compliance Inspections of Chemical Facility Anti-Terrorism Standards (CFATS) covered facilities, inspectors will continue to verify that emergency plans for security incidents are developed and coordinated with local law enforcement and first responders as required.
- As appropriate, expand Regional Response Teams (RRT) to include industry members to support and enhance communication during the emergency planning process.
- DHS, EPA, and OSHA will develop and disseminate additional guidance for industry members, explaining their role and responsibilities in community planning and facility safety and security. In addition, a national electronic newsletter will be established for federally regulated industry to improve education and information outreach for the regulated community.
- Develop and assess options for reviving the Federal Integrated Contingency Plan (ICP), or “One Plan” guidance facility reporting form to decrease duplication and streamline information. The “One-Plan” is an integrated contingency plan that allows a facility to comply with multiple Federal planning requirements by consolidating them into one functional emergency response plan.
- Develop guidance for LEPCs and TEPCs to engage facility owners and operators in the community emergency planning process and explain their authority under the Emergency Planning and Community Right-To-Know Act (EPCRA), including their

authority to conduct on-site inspection and collect specific location information on hazardous chemicals.

Over the longer term, actions include:

- Evaluate comments received in response to OSHA's Request for Information (RFI) on Process Safety Management and Prevention of Major Chemical Accidents to determine whether to require that facilities must coordinate emergency planning with local emergency response authorities.
- Provide best practices to SERCs, TERCs, LEPCs, and TEPCs on organizational design, staffing, and coordination with key local and facility representatives to increase their effectiveness.
- Consider updating OSHA's regulation 29 CFR 1910.38, Emergency Action Plans, to address requirements to coordinate emergency planning with local emergency-response authorities for workplaces with hazardous substances that pose a substantial threat of release.
- Clarify EPA Risk Management Program (RMP) information requirements to explicitly indicate that facilities can only report as 'non-responders' if local public responders have the means to respond to a facility's regulated substance and agree to respond. Otherwise, the facility must indicate itself as a responder.
- Working through the RRTs and with industry, identify opportunities and schedule chemical response exercises with federally regulated facilities and local emergency responders.

- Identify mechanisms for including LEPCs (including first responders and emergency planners) in Federal safety inspections at regulated facilities.
- Develop protocols for appropriate sharing of facility inspection information and results (while ensuring protection of security and enforcement information) with LEPCs and TEPCs.

Improve Training for First Responders

Stakeholders, particularly local emergency responders, members of the local emergency planning committees, local residents, and facility operators, have noted the lack of a coordinated approach to emergency preparedness and response training. The Working Group is evaluating a number of short term action items.

Short-term actions include:

- Survey existing courses and identify the most up-to-date training requirements for first responders.
- Provide a single, web-based portal on available training for first responders.
- Identify states where volunteers and public employees lack health and safety coverage.

Provide Further Prevention and Preparedness Technical Assistance

Input from state and local stakeholders indicate that LEPCs need assistance in contingency planning activities and analyzing the information received from regulated facilities. To achieve this, the Working Group is evaluating a number of short and longer term action items.

Short-term actions include:

- Develop guidance for LEPCs and TEPCs for developing chemical facility emergency response plans that will promote inclusion of all relevant community stakeholders (emergency responders, community residents and groups, industry etc).
- Establish a “community” via social media to promote information exchange, including lessons learned and best practices, as well as provide information on guidance and outreach materials. Within the “community,” seek opportunities for ‘peer-to-peer’ involvement to leverage experience and best practice applications.
- Work with states to improve SERC and TERC member orientation and training and conduct area/regional LEPC and TEPC workshops to provide technical assistance.
- Revise National Response Team (NRT) guidance on developing and reviewing Hazardous Materials Emergency Plans (NRT-1 and NRT-1a) to improve the development and review of hazardous materials emergency plans.

Over the longer term, actions include:

- Establish a mechanism to send alerts and notifications regarding chemical safety and security to SERCs and TERCs and LEPCs and TEPCs.
- Work with states to assist the SERCs to enhance their role as information sharing (e.g., RMP, CFATS Tier II) organizations and central repositories for training, resources, and program summaries related to chemical facilities.

Identify and Coordinate Funding Sources for LEPCs and TEPCs to Sustain Planning Activities

LEPC and TEPC access to funding for implementing community planning, preparedness, and response programs is not consistent. LEPC access to funding for implementing community planning, preparedness, and response programs is not consistent. Stakeholders have noted that better coordination of federal grant funds and support for mutual aid agreements that would help support coordinated ready access to emergency services, personnel, equipment, and other materials would assist with this need.

The Working Group is evaluating a number of short and longer term action items.

Short-term actions include:

- Federal agencies will identify potential resources (e.g., grants, technical assistance, fee systems, private sector funding) and best/successful practices, and provide that information to LEPCs and TEPCs.
- FEMA will explore modifications to the allowable cost list in the FY 2015 Homeland Security Grant Program Funding Opportunity Announcement to clarify that planning, training, and exercises for chemical facility incidents are eligible as permitted by law.

Over the longer term, actions include:

- Identify models for mutual aid agreements to lend assistance to LEPCs for chemical emergency planning and response activities.
- Develop a compendium of Federal preparedness funding sources to support first responder training and exercises, such as the Pipeline and Hazardous Materials Safety

Administration (PHMSA) Hazardous Materials Grant Program, which includes the Hazardous Material Emergency Preparedness, Hazardous Material Instructor Training, the Supplemental Public Sector Training grants, and the Homeland Security Grant Program.

Increase Use of Electronic Reporting and Data Management

State, local, and tribal officials as well as first responders have noted that local contingency planning and response would be more effective if information provided by chemical facilities was electronically available to officials who need it. The Working Group is evaluating a number of short and longer term action items.

Short-term actions include:

- Work with first-responders to develop guidance on facility specific chemical information needed during an emergency response, ensuring that facilities provide 24-hour contact information and that emergency responders are aware of that information.
- Explore options for making subject matter experts from federal and state government available to assist emergency planners and first responders on accessing and understanding the information provided in various databases.

Over the longer term, actions include:

- Explore further expansion of the Computer-Aided Management of Emergency Operations (CAMEO) software suite to include OSHA information; develop a mobile

device application; and consider additional initiatives to assist LEPCs and TEPCs in planning.

- Develop a web-based version of facility Tier II information submittals to facilitate state development of an internet reporting system, which can be integrated with existing delivery systems, and assist with the accuracy of Tier II information to complement other emergency management portal systems.
- Leverage the DHS Homeland Security Information Network and other information sharing tools and platforms to improve first-responder access to chemical facility security information that is not sensitive but is essential for response planning.

Improve Public Participation in Emergency Response Planning and Access to Information About Chemical Risks.

In some communities, the public may not be notified or be aware of chemical releases nor does it know how best to respond if a chemical accident occurs. This may pose a particular challenge to communities located near multiple chemical facilities. Additionally, in some cases the public does not know about LEPCs or how to participate in the planning and preparedness process.

To help improve public engagement on these issues, the Working Group is evaluating a number of short and longer term action items.

Short-term actions include:

- Develop outreach materials and successful practices describing mechanisms for broadening LEPC membership to groups outside those listed in the EPCRA statute.

- Hold stakeholder training workshops and annual conferences to promote networking and information exchange.

Over the longer term, actions include:

- Include non-government entities that play a role in emergency planning and response around chemical facilities in meetings with SERCs and LEPCs to identify methods of integrating these groups into planning prior to an emergency.
- Develop best practices and/or guidance on successful notification systems and implementing those systems, including reverse 911, sheltering in place, and evacuation.
- Identify mechanisms to address the need to improve public communication on local chemical release risk to the public.

Modernizing Policies, Programs, and Requirements

As the President called for in the EO, the Working Group is considering options to improve chemical facility risk management practices through agency programs, private sector initiatives, government guidance, outreach, standards, and regulations. While EPA believes the EPCRA and RMP regulation, as well as programs operated by DHS, OSHA, and other Federal departments and agencies, made important progress in preventing and mitigating chemical accidents in the United States and protecting communities from chemical hazards, more needs to be done reviewing and evaluating current program and practices, and applying lessons learned to continuously advance chemical facility safety and risk management. For that reason, EPA is seeking public input on potential ways to improve the RMP program and further reduce the

number of chemical accidents within the United States. There are several categories of areas for which EPA has developed potential options have been developed based on information gathered during listening sessions, input from stakeholders, and experiences from implementing the program. These categories to consider include: updating the list of regulated substances; exploring options for further addressing reactive substances, reactivity hazards, and explosive chemical hazards; evaluating the implementation of best practices and lessons learned and identifying ways to use safer alternatives as mechanisms to reduce chemical risk.

The Section-6a stakeholder discussion and comment period, which continues through March 31, 2014, is a critical step in evaluating the feasibility and effectiveness of these options. Feedback on these options will inform a plan for implementing improvements to chemical risk management. This effort does not supersede official or standard processes for agency actions, such as notice and comment rulemaking. The options can be found at:

https://www.osha.gov/chemicalexecutiveorder/Section_6ai_Options_List.html.

OSHA is also seeking public input on modernization of its Process Safety Management (PSM) and related standards, and the comment period on a Request for Information (RFI) remains open until March 31, 2014. Both the RFI and instructions for submitting comments may be found at <http://www.gpo.gov/fdsys/pkg/FR-2013-12-09/pdf/2013-29197.pdf>.

The Working Group will continue to work toward accomplishing the goals of the EO and remains committed to its mission to improve chemical facility safety and security and will provide congressional and public updates regarding further progress associated with the EO.

U.S. Environmental Protection Agency
Responses to Questions for the Record from the
March 6, 2014, Senate Environment and Public Works Committee Hearing
July 2014 (Updated)

Questions from Chairman Barbara Boxer:

1. **Executive Order 13650, Section 4(a) required the Working Group to deploy, within 45 days, a pilot program, involving the EPA, OSHA, DHS, and any other appropriate agency, to validate best practices and to test innovative methods for Federal interagency collaboration regarding chemical facility safety and security, including innovative and effective methods of collecting, storing, and using facility information, stakeholder outreach, inspection planning, and, as appropriate, joint inspection efforts. With respect to the pilot program, which was deployed in EPA Region 2, please identify the best practices that are being validated and innovative methods that are being tested.**

ANSWER: As directed by the Presidential Executive Order on *Improving Chemical Facility Safety and Security* (EO 13650), federal agencies launched a Working Group to enhance coordination among agencies, and across all levels of state and local government, to strengthen information sharing efforts and expand outreach to the chemical industry, emergency managers, first responders and other stakeholders.

The Working Group launched a pilot program in August of 2013, in New York and New Jersey to evaluate best practices and test innovative methods for interagency collaboration on chemical facility safety and security. Under the pilot program, the Working Group is formulating an understanding of chemical facility risk in that region, ensuring that local responders have access to key information and evaluating processes and protocols for information sharing. The pilot is also working to improve coordination of inspections by sharing inspection schedules, cross-training inspectors, and supporting inter-agency referrals of possible regulatory non-compliance as we work toward the development of a unified federal approach for identifying and responding to risks identified in chemical facilities. The pilot is helping inform the development of standard operating procedures for Federal coordination at the national and regional levels.

2. **Executive Order 13650, Section 2(c) requires the Working Groups to provide, within 270 days, a status report to the President on the efforts to implement the EO. Given that this status report will identify a number of plans and proposals that will be implemented after the status report is due, does the Working Group intend to continue to meet and provide subsequent status reports to the President on the implementation of those plans and proposals? Will EPA commit to providing quarterly status updates to this Committee on the implementation of the Executive Order actions?**

ANSWER: Yes. EPA will continue to provide the Committee regular updates on actions implemented under the Executive Order.

Question with Senator Edward J. Markey

3. Mr. Stanislaus, Executive Order I3650 ordered a number of specific actions to be completed by the Working Group. For the following list of actions whose deadlines for completion have passed, please indicate: (1) whether the action was completed; (2) 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, (3) if not, indicate the date on which the action will be completed. In each response, describe how the Working Group had addressed each specific element within each of the specific actions required by the Executive Order.
- a. The plan to support and further enable efforts by State regulators, State, local, and tribal emergency responders, chemical facility owners and operators, and local and tribal communities to work together to improve chemical facility safety and security. (Sec. 3(a); Within 135 days).
 - b. 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).
 - c. 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).
 - d. 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).
 - e. 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).
 - f. The proposal for a coordinated, flexible data-sharing process which can be utilized to track data submitted to agencies for federally regulated chemical facilities, including locations, chemicals, regulated entities, previous infractions, and other relevant information (Sec. 5(b); Within 180 days).

- g. 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).
- h. 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).
- i. 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).
- j. 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).
- k. 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).
- l. 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).

ANSWER:

As directed by the Presidential Executive Order on *Improving Chemical Facility Safety and Security* (EO 13650), federal agencies launched a Working Group to enhance coordination among agencies, and across all levels of state and local government, to strengthen information sharing efforts and expand outreach to the chemical industry, emergency managers, first responders and other stakeholders.

On June 6, 2014, the Working Group's report to the President, entitled *Actions to Improve Chemical Facility Safety and Security – A Shared Commitment* was released. The report highlights activities undertaken to improve chemical facility safety and security and provides a consolidated plan of actions to further minimize chemical facility safety and security risks. The issuance of the report is intended as a milestone, not an endpoint.

The report to the President includes an Action Plan focusing on 5 key areas: strengthening community planning and preparedness, enhancing federal operational coordination, improving data management, modernizing policies and regulations, and incorporating stakeholder feedback and developing best practices.

a. Under the Action Plan, community planning and preparedness will be strengthened by:

- Strengthening Local Emergency Planning Committee (LEPCs)/Tribal Emergency Planning Committee (TEPC) capabilities;
- Improving first responder and emergency management preparedness and response training;
- Identifying and coordinating funding sources for State Emergency Response Commissions (SERCs)/Tribal Emergency Response Commissions (TERCs) and LEPCs/TEPCs to sustain planning and response efforts; and
- Expanding tools to assist SERCs/TERCs and LEPCs/TEPCs in collecting, storing, and using chemical facility information.

Federal operational coordination will be enhanced by:

- Establishing a Chemical Facility Safety and Security National Working Group to facilitate Federal interagency coordination and collaboration on report actions and implementation;
- Establishing standard operating procedures for Federal coordination at the National and regional levels; and
- Cross-training Federal chemical facility safety and security regulatory programs field personnel.

b. Under the Action Plan, data sharing will be improved by providing information tools for regulated chemicals by expanding the Substance Registry Services (SRS) to include ATF's list of Explosive Materials and link agency systems to SRS records to increase chemical regulatory awareness.

c. Under the Action Plan, community planning and preparedness will be strengthened by sharing certain data elements of CFATs, RMP, PSM, and MTSA data with first responders, state agencies, TECPs and LEPCs.

d. As discussed in the report to the President, the Working Group has engaged the Chemical Safety Board (CSB) to identify possible updates to existing memoranda of understanding between CSB and EPA, CSB and OSHA, and CSB and ATF and continues to work on improving information sharing and collaboration.

e. Under the Action Plan, data sharing will be improved by establishing a cross-agency team of experts to begin work on developing a common facility identifier and data terminology and completing the exchange of information and relevant data among Working Group members.

f. Under the Action Plan, data sharing will be improved by:

- Using the Environmental Protection Agency's Facility Registry Service (FRS) as a central repository to link data from multiple agencies to assist with identifying noncompliant facilities and/or other potential compliance issues.

- Building the capability for each agency's database to automatically share information with the FRS as new facility registration information is entered. This will allow each separate agency's database to provide updates and receive new facility records in real time. The continual exchange of data among programs will provide a consolidated and comprehensive facility profile.
 - Using FRS or other appropriate systems to increase information sharing from federal regulatory programs with the public while maintaining the appropriate balance between safety and security.
- g. In addition to the actions described in the response to question f above, data collection will be improved by:
- Expanding the Substance Registry Services (SRS) to include Maritime Transportation Security Act (MTSA) and Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) List of Explosive Materials based on the needs of state and federal agencies, industry members and other stakeholders.
- h. Under the Action Plan, options for modernizing policies and regulations include:
- Modernizing the OSHA Process Safety Management (PSM) Standard: for example, revising the current interpretation of "retail facilities", revising the current interpretation of chemical concentrations covered under the PSM standard, and initiating a small business SBREFA review to solicit views on modernizing the PSM standard.
 - Modernizing the EPA Risk Management Program (RMP): for example, soliciting stakeholder input through issuance of a Request for Information (RFI) and strengthening or clarifying existing requirements with new prevention and emergency response program elements.
 - Promoting safer technology and alternatives: for example, issuing an alert on safer technology and alternatives, developing guidance to make chemical operators aware of safer technologies, processes and alternative solutions to reduce risk, and consider potential modifications of RMP and/or PSM requirements to include specific safer alternatives analysis.
 - Strengthening the Chemical Facility Anti-Terrorism Standards (CFATS) program: for example: soliciting public comment on an ANPRM on potential updates to the list of chemicals of interest and other aspects of the CFATS regulation, improving the methodology used to identify and assign risk tiers to high-risk chemical facilities, and coordinating chemical facility security activities and exploring ways to harmonize chemical facility security regulatory programs.
 - Developing guidance and outreach materials for industry.
- i. Under the Action Plan, ammonium nitrate safety and security will be enhanced by:
- Reviewing comments from the OSHA RFI to determine whether ammonium nitrate hazards should be addressed by updating the 1910.109 standard based on the work of consensus standard organizations, such as the National Fire Protection Association (NFPA), that are in the process of developing ammonium nitrate safe handling practices and/or covering ammonium nitrate in a more comprehensive PSM standard.

- Forming an OSHA Alliance with the fertilizer industry, emergency response organizations, and other Working Group Agencies to develop solutions to promote best practices for ammonium nitrate safety.
- Working closely to consider if additional EPA action is needed to complement OSHA ammonium nitrate safety regulations.
- Completing a final rule to implement the Secure Handling of Ammonium Nitrate provisions of the Consolidated 2008 Appropriations Act.
- Soliciting feedback through a CFATS Advance Notice of Proposed Rulemaking (ANPRM) on potential modification of the CFATS regulations to address ammonium nitrate. For example, consider lowering the current screening threshold quantities for ammonium nitrate under CFATS.
- Updating the *Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate*.

j. Under the Action Plan, OSHA will move toward modernizing the PSM Standard by revising the current interpretation of “retail facilities”, revising the current interpretation of chemical concentrations covered under the PSM standard, and initiating a small business SBREFA review to solicit views on modernizing the PSM standard. EPA will issue an RFI that will help inform its effort to modernize the Risk Management Program (RMP). EPA will harmonize and coordinate its RMP modernization effort with the OSHA PSM effort. EPA would propose any appropriate priority amendments to the RMP regulation to advance increased safety in 2015 with the goal of finalizing regulatory amendments in 2016.

k. Under the Action Plan, within a year from the date of the release of the report to the President, DHS will solicit public comment on an advanced notice of proposed rulemaking (ANPRM) on potential updates to the list of chemicals of interest and other aspects of the CFATS regulation.

l. Under the Action Plan, OSHA will revise the current interpretation of “retail facilities” based upon information received in its PSM Request for Information (RFI) to more accurately reflect the intent of the exemption as expressed in the PSM preamble to the final rule.

Question from Senator Edward Markey:

1. **In 2009, during consideration of H.R. 2868, the Administration went through an inter-agency process to establish policy principles related to the use of inherently safer technology (IST). Those principles are inserted below, and were delivered in Congressional testimony by Peter S. Silva, then-Assistant Administrator for Water at EPA as well as a witness representing the Department of Homeland Security. While these principles related to a piece of legislation that was not enacted and thus also not referred to in E.O. 13650, some of the principles do represent general policy statements:**

- "The Administration supports consistency of IST approaches for facilities regardless of sector."
- "The Administration believes that all high-risk chemical facilities, Tiers 1-4, should assess IST methods and report the assessment in the facilities' site security plans."

Further, the appropriate regulatory entity should have the authority to require facilities posing the highest degree of risk (Tiers 1 and 2) to implement IST method(s) if such methods enhance overall security, are feasible, and, in the case of water sector facilities, consider public health and environmental requirements."

- "For Tier 3 and 4 facilities, the appropriate regulatory entity should review the IST assessment contained in the site security plan. The entity should be authorized to provide recommendations on implementing IST, but it would not require facilities to implement the IST methods."
 - "The Administration believes that flexibility and staggered implementation would be required in implementing this new IST policy. DHS, in coordination with EPA, would develop an IST implementation plan for timing and phase-in at water facilities designated as high-risk chemical facilities. DHS would develop an IST implementation plan for high-risk chemical facilities in all other applicable sectors."
- a. Does the Administration continue to believe that all high-risk chemical facilities should assess IST methods and report the assessment to the federal government? If not, why not (and please provide copies of documents that establish the Administration's new policy)?
 - b. Does the Administration continue to believe that regulators should have the authority to direct the highest risk chemical facilities to implement IST methods if such methods enhance overall security, are feasible, and, in the case of water sector facilities, consider public health and environmental requirements? If not, why not (and please provide copies of documents that establish the Administration's new policy)?

ANSWER: Consideration and adoption of safer technologies and alternatives at high risk chemical facilities can be important steps to reduce risks. As part of the implementation of EO 13650, the Working Group solicited public comment on options, including the use of safer technologies, to encourage such risk reduction at chemical facilities and is currently evaluating those comments and potential next steps.

As discussed in the report to the President, based upon information and feedback from RFI's and other efforts, OSHA and EPA are considering the best mechanism for promoting the use of safer technologies and alternatives. Such mechanism may include the modification of PSM and RMP Standards to require facilities to perform their own safer technology and alternatives analysis and document any actions taken to implement feasible alternatives. EPA and OSHA are also working on other avenues to reinforce and further spread the use of safer technology and alternatives in managing chemical risk, including issuing an alert on safer technology and alternatives, working with industry to promote examples of best practices, and developing guidance to inform chemical operators of safer technology, processes, and alternative solutions.

Questions from Senator David Vitter

1. I would appreciate a yes or no answer on where you and the Agency currently stand with regards to regulating ammonium nitrate under the Clean Air Act RMP program. Do you

and the Agency still stand by your response to Senator Boxer's April 30th letter on the incident in West, TX that ammonium nitrate fertilizer does not meet the criteria for substances regulated under the Clean Air Act RMP program?

ANSWER: EPA supports the views expressed in its April 30, 2014, response to Chairman Boxer. Ammonium nitrate fertilizer is not intended to function as an explosive and would not have been regulated under the original RMP list rule.

- 2. The RMP program uses models in order to assess accidental chemical release risks. These models are designed specifically for air releases, not explosions. Given that ammonium nitrate is not released into the air like other RMP managed chemicals, if EPA were to regulate ammonium nitrate under the RMP program, would it have to totally redo or create new models?**

ANSWER: As part of the implementation of Executive Order 13650, EPA, OSHA and DHS are exploring options for improving the management of chemical hazards, including those associated with the safe handling and storage of ammonium nitrate. The models provided by EPA to assess chemical risks under the RMP program are designed both for toxic air releases and explosion (63 of the 140 chemicals currently regulated under the RMP program were listed because of the potential to form explosive vapor clouds).

- 3. You mentioned in your testimony, the President's Executive Order required the working group to develop a pilot program to "validate best practices and to test innovative methods for Federal interagency collaboration." How long do you believe we need to allow this pilot program to play out in order to use its results to inform policy changes or new rules and regulations?**

ANSWER: As directed by the Presidential Executive Order on *Improving Chemical Facility Safety and Security* (EO 13650), federal agencies launched a Working Group to enhance coordination among agencies, and across all levels of state and local government, to strengthen information sharing efforts and expand outreach to the chemical industry, emergency managers, first responders and other stakeholders.

Under the pilot program, the Working Group is formulating an understanding of chemical facility risk in that region, ensuring that local responders have access to key information and evaluating processes and protocols for information sharing. The pilot is also working to improve coordination of inspections by sharing inspection schedules, cross-training inspectors, and supporting inter-agency referrals of possible regulatory non-compliance as we work toward the development of a unified federal approach for identifying and responding to risks identified in chemical facilities. The pilot is helping inform the development of standard operating procedures for Federal coordination at the national and regional levels.

- 4. The current RMP program regulates approximately 13,000 RMP facilities nationwide including family owned and operated businesses like bakeries, food storage and processing facilities, dry cleaners, hair stylists, and distribution warehouses. How do you think all these small businesses might respond to federal mandates for IST?**

ANSWER: Although a number of bakeries, food storage, processing, and distribution facilities are regulated under the RMP program, there are no dry cleaning or hair stylist facilities covered under the regulation. As part of the implementation of EO 13650, the Working Group solicited public comment on options, including the use of safer technologies, to encourage risk reduction at chemical facilities and is currently evaluating those comments and potential next steps. As a general matter, federal regulatory actions are implemented through the notice and comment rulemaking process, and as necessary, include convening of a small business panel under the Small Business Regulatory Flexibility Act (SBREFA) to solicit views regarding potential small business impacts.

5. Does EPA have the resources to add new compliance requirements to regulate IST under RMP?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at chemical facilities and is currently evaluating those comments and potential next steps. EPA supports the FY 2015 budget request for the RMP program.

6. Does EPA have staff qualified to evaluate this wide range of processes and facilities for purposes of an IST requirement?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at chemical facilities and is currently evaluating those comments and potential next steps.

7. Just a year ago, the EPA IG found that "15 of the 45 RMP inspectors nationwide received inspector credentials without documentation indicating that they met minimum training requirements. Further, six of the 12 supervisors did not meet minimum training requirements. EPA's management controls did not detect or prevent the cases of missed or undocumented training. Identified also were weaknesses in controls included limitations in training tracking systems and a lack of procedures to ensure that supervisors met their training requirements. Also, contracts and cooperative agreements for inspection services did not include training requirements and EPA guidance did not establish minimum guidelines for the scope of inspections."

Further, EPA did not have a process to monitor the quality of inspections. And generally, inspection reports did not explain the extent to which the inspectors reviewed specific elements of a covered process to determine compliance." Can you please explain what steps EPA has taken to address these concerns? Given the current shortcomings within the RMP and its inspectors, how can creating any new complicated regulatory requirements prior to fixing any previous issues possibly provide greater safety and more compliance?

ANSWER: The EPA concurred with the recommendations made by the Office of Inspector General (OIG) and committed to corrective actions. The EPA has already revised its credentialing process for RMP inspectors to help ensure minimum training requirements are met and also strengthened both initial training and refresher training for inspectors. Cooperative

agreements for Senior Environmental Employee inspectors have been revised to include a requirement that all EPA required training applicable to the position be listed in the position description. A number of other actions recommended by the OIG are currently being implemented.

8. If IST were to be mandated in regulations, how will it be measured?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at chemical facilities.

As discussed in the report to the President, based upon information and feedback from RFI's and other efforts, OSHA and EPA are considering the best mechanism for promoting the use of safer technologies and alternatives. Such mechanism may include the modification of PSM and RMP Standards to require facilities to perform their own safer technology and alternatives analysis and document any actions taken to implement feasible alternatives. EPA and OSHA are also working on other avenues to reinforce and further spread the use of safer technology and alternatives in managing chemical risk, including issuing an alert on safer technology and alternatives, working with industry to promote examples of best practices, and developing guidance to inform chemical operators of safer technology, processes, and alternative solutions.

9. The EO was specifically created to get agencies to work together since the tragic incident in West, Texas, what progress has been made by your agencies/departments to help identify outliers? How many outliers have you identified since the West, Texas incident?

ANSWER: The Department of Homeland Security provided EPA with a data extract from the Chemical Facility Anti-Terrorism Standards (CFATS) Top Screen database containing the identity of facilities that submitted a CFATS Top Screen to DHS for any RMP chemical without indicating an RMP identification number on the submission. Based upon this information, the EPA contacted potential outliers and has identified approximately 15 facilities that should have submitted risk management plans to EPA.

10. Has the Compliance Assistance part of OECA been involved with the listening sessions and what are they doing to help?

ANSWER: Although the EPA's Office of Enforcement and Compliance Assurance was not actively engaged in Executive Order listening sessions, they have been involved in agency deliberations regarding the path forward to help improve the safety and security of chemical facilities.

11. Is EPA working with the SBA and the US Chamber to reach out to smaller communities and businesses?

ANSWER: Federal agencies launched a Working Group to enhance coordination among agencies, and across all levels of state and local government, to strengthen information sharing efforts and expand outreach to the chemical industry, emergency managers, first responders and

other stakeholders. Listening sessions convened by the Working Group solicited input from a broad range of stakeholders including local communities and small business representatives.

12. Has EPA reached out to the regulated community on any potential changes to the LEPC program?

ANSWER: Federal agencies launched a Working Group to enhance coordination among agencies, and across all levels of state and local government, to strengthen information sharing efforts and expand outreach to the chemical industry, emergency managers, first responders and other stakeholders. Listening sessions convened by the Working Group solicited input from a broad range of stakeholders, including the regulated community.

13. Perhaps one of the most helpful things that can be done to prevent future accidents like the explosion in West, TX is to ensure that the entire regulated community has an understanding of existing rules and regulations and understands how to comply. What is EPA doing to help in compliance assistance and awareness and marketing compliance guidance material? Have you increased compliance assistance activities since West?

ANSWER: One of the initial actions taken after issuance of the EO was the development and August 30, 2013 release by EPA, the Occupational Safety and Health Administration, and the Bureau of Alcohol, Tobacco, Firearms and Explosives of a chemical advisory that provides information to communities, workers, first responders and commercial sectors on the hazards of ammonium nitrate storage, handling, and management. We plan to update this advisory based upon feedback we have received from stakeholders. Further, in February 2014, Assistant Secretary of Labor for Occupational Safety and Health signed a letter that is being 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.

14. Or, you can try the approach that RMP is intended to decrease the risk of accidental airborne releases of chemicals that could harm the public. Assuming an IST requirement were implemented under RMP, would such a requirement be allowed to consider workplace safety impacts of the technologies? What about impacts of security from terrorism? Or on transportation of chemicals to and from the facility? Aren't these all areas outside of EPA jurisdiction under RMP, yet factors that a facility considers when doing a holistic review of its processes? Why then would an IST component of RMP be useful?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at chemical facilities and is currently evaluating those comments and potential next steps.

15. Does EPA believe that the facilities in West, TX and West Virginia were compliant with all existing rules and regulations at the federal and state level? If not, can you please list what rules and regulations were violated? If in fact rules and regulations were not followed, would it be fair to say that ensuring facilities were compliant with current rules could be just as if not more effective than creating additional rules?

ANSWER: EPA has not determined whether the facilities in West, Texas or West Virginia were compliant with all existing federal and state rules and regulations because investigations of the West, Texas and West Virginia Elk River incidents remain ongoing.

16. What would you estimate would be the resources required for a regulatory agency to evaluate and identify adequate IST considerations for all chemical processes and facilities?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at chemical facilities and is currently evaluating those comments and potential next steps.

17. How would small companies such as West Texas and Freedom Industries perform IST evaluations given the complexity and size of such an analysis?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at chemical facilities and is currently evaluating whether and how to require such an analysis through regulation. EPA and OSHA are also working on other avenues to reinforce and further spread the use of safer technology and alternatives in managing chemical risk, including issuing an alert on safer technology and alternatives, working with industry to promote examples of best practices, and developing guidance to inform chemical operators of safer technology, processes, and alternative solutions. These technical assistance tools may help inform small businesses on the practices that would be feasible to employ at smaller facilities.

18. How would an IST regulation reach companies and plant sites that are not aware of, have chosen not to comply with, or lack the understanding of what is already in the regulations?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at chemical facilities and is currently evaluating whether and how to require such an analysis through regulation. EPA and OSHA are also working on other avenues to reinforce and further spread the use of safer technology and alternatives in managing chemical risk, including issuing an alert on safer technology and alternatives, working with industry to promote examples of best practices, and developing guidance to inform chemical operators of safer technology, processes, and alternative solutions. These technical assistance tools may help inform companies and plant sites that are unfamiliar with the practices available to them.

19. How do you view IST as the method to improve safety? The examples given to date in the EO 13650 and in statements by the CSB discuss incidents that were the result of lack of enforcement of existing regulations. Would it not be more cost effective to invest in outreach, educational training, cooperative industry-government initiatives, and enforcement of existing regulations than to develop complex and impracticable new regulations?

ANSWER: As part of the implementation of EO 13650, the Working Group solicited public comment on options to encourage consideration of safer technologies and alternatives at

chemical facilities and is currently evaluating those comments and potential next steps. Multiple tools and methods can be used to help improve chemical facility safety including training, outreach, and technical assistance. For more on EPA technical assistance for facilities see: <http://www2.epa.gov/rmp/guidance-facilities-risk-management-programs-rmp>.

Senator BOXER. Thank you.

Mr. Moure-Eraso. Make sure your mic is on, sir. Thank you so much.

STATEMENT OF HON. RAFAEL MOURE-ERASO, CHAIRMAN, U.S. CHEMICAL SAFETY BOARD

Mr. MOURE-ERASO. Chairman Boxer, Senator Barrasso, and distinguished committee members, thank you for inviting me here today. I am Rafael Moure-Eraso, the Chairperson of the U.S. Chemical Safety Board.

The Chevron refinery fire in California in 2012, the West, Texas, explosion last year, and the West Virginia water crisis in January, all these were preventable accidents.

The United States is facing an industrial chemical safety crisis. After all these actions, we hear frustration, heartbreak; workers, emergency responders, and the public continue to die and suffer injuries.

Estus Powell, a father who lost his daughter, a refinery operator, in the 2010 fire at the Desoto refinery in Washington State, recently told us, my life was forever changed. All I want to know is does anybody care. It seems we can get nobody to have any teeth in anything, to get anything done. That is what Mr. Powell told us.

Our investigations have concluded that certain fundamental changes are needed. We have a regulatory system that sometimes encourages paper compliance over real risk reduction. As an interim measure, I advocate that the EPA use its existing authority under the Clean Air Act to encourage chemical facilities to make their operations inherently safer where it is feasible to do so. Then the EPA should follow up by adopting specific regulations with clear requirements.

The goal should be to drive chemical process risk as low as reasonably practicable. In Europe, this is a cornerstone of the regulatory system. Insurance statistics tell us European chemical sites have an accident rate at least three times lower than in the United States. Time and again, as reports show, we find examples where companies could have used available, feasible, safer technologies to prevent disastrous accidents, but choose not to do so.

I realize inherently safer technology, or IST, is a term that has drawn some controversy, but it is really just a well established concept developed by industry and used by industry. It focuses on eliminating and minimizing hazards, instead of just trying to control hazards that already exist. Many accidents could be prevented using off-the-shelf technologies, such as corrosion-resistant materials, or reducing the storage of hazardous materials to the minimum necessary.

In West Virginia, applying these principles could have prevented or reduced the consequence of the recent spill. For example, the chemical storage tank could have been sited away from drinking water supplies and also constructed of different resistant materials.

I commend Senator Boxer, Senator Manchin, and Senator Rockefeller for promptly introducing legislation on this and encourage you to pass a strong bill.

I am also encouraged by the leadership of the White House on this issue, especially the Executive Order on chemical safety that

we are discussing today, and I hope that regulatory agencies respond in kind. The EPA has the authority today to require companies to apply ISTs in design, equipment, and processes. I call on the industry to join in support of this reform, which companies know will go a long way to stopping these catastrophes.

I must add that no regulatory system will work unless regulatory agencies like the EPA and OSHA receive more resources for more highly specialized technical inspectors.

Madam Chairman, your State of California has been leading the way on this. Following the Chevron fire in 2012 and a recommendation from the CSB, the legislature has moved to triple the number of process safety inspectors, using fees collected from the refinery industry. And California is going to mandate using safer technologies and also is looking at what is called the safety case model. Under the safety case model, the burden is on companies to prove they can operate safely by following the most up-to-date safety standards; it is a condition of operating.

In conclusion, these major accidents don't have to happen. They kill and injure workers, harm communities, and destroy productive business. The best companies in the U.S. and overseas know how to prevent these disasters, but we need a regulatory system here that ensures that all the companies are operating to the same high standards.

That concludes my testimony. Thank you, Madam Chairman.

[The prepared statement of Mr. Moure-Eraso follows:]

**Written Testimony of U.S. Chemical Safety Board Chairperson Rafael Moure-Eraso at
March 6, 2014, Senate Environment and Public Works Committee Hearing Entitled
“Preventing Potential Chemical Threats and Improving Safety: Oversight of the
President’s Executive Order on Improving Chemical Facility Safety and Security”**

Chairman Boxer, Senator Vitter, and distinguished Committee members – thank you for inviting me today. I am Dr. Rafael Moure-Eraso, Chairperson of the U.S. Chemical Safety Board.

The incidents that we are discussing – Chevron, Tesoro, Freedom Industries, West Fertilizer, and Williams Olefins – are tragedies of the kind that were preventable.

The United States is facing an industrial chemical safety crisis. As we near the one-year anniversary of the West Fertilizer Explosion that fatally injured fifteen, I view my goal as Chairperson of the CSB as ensuring that progress is made to prevent similar catastrophes from occurring.

I wish every American could hear the frustration and heartbreak that the CSB encounters – at accident sites and at public meetings following these accidents. Workers, emergency responders, and the public continue to die and suffer injuries in horrendous explosions and fires.

Estus Ken Powell, who lost his daughter Kathryn in the 2010 fire at Tesoro’s refinery in Washington State, stood up at a recent CSB public meeting to demand action to stop these horrible accidents. Mr. Powell said, “My life was forever changed. All I want to know is, does anybody care? It seems we can get nobody to have any teeth in anything, to get anything done.”

Of course, we all do care. And we want to get something done, something with teeth. And I believe what we need is comprehensive regulatory reform. But achieving safety reforms is complicated and time-consuming. In the interim, I advocate that the Environmental Protection Agency (EPA) step in and use its authority under the Clean Air Act’s general duty clause to encourage chemical facilities to take steps to make their operations inherently safer where it is feasible to do so.

The law assigns owners and operators of these facilities a general duty to identify hazards, design and maintain safe facilities and minimize the consequences of leaks. But most importantly, the EPA should follow up by adopting specific regulations to meet those goals, so that there are clear requirements on the books.

My testimony includes a number of examples where companies could have used available, feasible, safer technologies to prevent disastrous accidents, but chose not to do so.

After the West, Texas, 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 on this issue, and I hope that regulatory agencies respond in kind. The EPA is working with other agencies to comply, but in the meantime, the agency has the authority to act now, on its own, to require inherently safer design, equipment and processes which would significantly aid in preventing more catastrophes.

Refinery Safety

In a draft report released to the public on December 16, 2013, the CSB proposed recommendations for substantial changes to the way refineries are regulated in California. Entitled "Regulatory Report: Chevron Richmond Refinery Pipe Rupture and Fire," the CSB draft report calls on California to replace the current patchwork of largely reactive and activity-based regulations with a more rigorous, performance-based regulatory regime – similar to those successfully adopted in the aerospace and nuclear sectors in the U.S. and overseas throughout the European Union including countries such as the United Kingdom, Norway, and Australia – known as the "safety case" system.

The draft report is the second part of three in the CSB's investigation of the August 2012 process fire in the crude unit at the Chevron refinery in Richmond, California. That fire endangered 19 workers and sent more than 15,000 residents to the hospital for medical attention.

In response to the incident, the State of California established an Interagency Working Group on Refinery Safety, an initiative undertaken by Governor Jerry Brown.

I would like to take this opportunity to heartily applaud the findings and recommendations contained in the working group's final report entitled "Improving Public and Worker Safety at Oil Refineries."

This report is an important milestone for improving refinery safety across the State of California and effectively addressing many of the CSB's safety recommendations contained in our Chevron refinery accident report released in April 2013.

The working group's final report includes a number of strong recommendations which are in alignment with the CSB's recommendations: that refineries should implement inherently safer systems to the greatest extent feasible; use formal techniques to evaluate the effectiveness of process safeguards to drive risk to as low as reasonably practicable (ALARP); and perform damage mechanism hazard reviews to ensure corrosion hazards are accurately identified before accidents occur.

Furthermore, the Working Group report recommends requiring companies to complete root cause analyses after significant accidents or releases, to explicitly account for human factors and organizational changes, and to perform periodic safety culture assessments.

Finally, the report indicates California will continue to pursue broader regulatory reforms, including the "safety case" system.

California is also in the process of tripling its force of specialized refinery safety inspectors, an initiative that is essential for the success of any regulatory system. We have made similar recommendations to federal OSHA, but they have taken only small steps.

On January 30, 2014, the CSB released a draft final report on the April 2010 fatal explosion and fire at the Tesoro refinery in Anacortes, Washington. The report found that the incident was

caused within a heat exchanger, by a damage mechanism known as “high temperature hydrogen attack” or HTHA, which severely cracked and weakened carbon steel tubing leading to a rupture.

The draft report proposes far-reaching recommendations to the federal Environmental Protection Agency, the Governor, and State Legislature of the State of Washington to more rigorously protect workers and communities from potentially catastrophic chemical releases.

The accident at Tesoro could have been prevented had the company applied inherent safety principles and used HTHA-resistant materials to prevent the heat exchanger from cracking. This accident is very similar to the one that occurred at the Chevron refinery where corroded piping failed catastrophically. The company was made aware of the corrosion, but didn’t take the necessary steps to replace piping with inherently safer, corrosion-resistant materials. Companies must do a better job of preventing refinery accidents, which occur all too frequently.

At both Tesoro and Chevron, warning signs were ignored over many years, and opportunities to prevent accidents by implementing inherently safer designs were missed.

Our investigations have concluded that fundamental changes are needed. Our board tracked 125 significant refinery incidents in 2012 alone.

Chemical Safety Board investigations show state and federal regulators are not able to ensure safety at refineries. They are under-resourced, outgunned by a powerful industry that seeks to blunt and sometimes even roll back the already inadequate regulatory system in the U.S.

Freedom Industries

I will now discuss the CSB’s activities in Charleston, West Virginia – specifically in relation to the release of hazardous chemicals into the water supply of about 300,000 residents in nine counties.

First, I think it is important to discuss the history that the CSB has had investigating accidents in West Virginia’s Kanawha Valley, a center of the state’s chemical enterprise. This is our third deployment to a major chemical incident in the valley. In 2008 two workers were fatally injured at the Bayer CropScience chemical plant in Institute, West Virginia, when a waste tank containing the highly toxic pesticide methomyl violently exploded. Then in 2010, three incidents occurred in a thirty-three hour period at the DuPont facility in Belle. There was a release of highly toxic phosgene, which exposed a veteran operator and resulted in his death less than one day later.

Following the CSB’s investigation into the Bayer and DuPont incidents the board recommended that the county, working with the state, establish a hazardous chemical release prevention program to enhance safety and optimize emergency response. The CSB recommended that the health department establish an industrial safety authority, paid for using fees assessed on the companies processing or handling potentially dangerous chemicals. As an example, we cited the program in California’s Contra Costa County, which has an equally dense industrial/chemical base. Although this was not immediately adopted in West Virginia, the legislature there is now considering this approach in the wake of the Freedom Industries incident.

The CSB's previous recommendations in West Virginia were aimed at empowering a government agency to determine just what posed a high hazard. Perhaps qualified inspectors would have considered pre-World War II vintage chemical storage tanks, located just one and one-half miles upstream from the intake of a public drinking water treatment plant, to be potentially "highly hazardous" and worthy of a closer look.

All of us here today are all too aware of the recent events that occurred at Freedom Industries. On January 9, 2014, a 48,000-gallon steel tank experienced a leak of up to 10,000 gallons of crude 4-methylcyclohexane methanol (MCHM) with an estimated 5.6% PPH, a poly glycol ether. A significant amount of the chemical was released into the Elk River, a tributary to the Kanawha River.

The CSB's preliminary research indicates that there is a gap in the regulatory framework covering aboveground chemical storage tanks.

In October of 2013, at the request of the company, Tank Engineering and Management Consultants performed a review of the tank terminals located in Charleston and Nitro. The evaluation was conducted and approved by an API-653 and 570 certified inspector, who also was credentialed as a National Association of Corrosion Engineers (NACE) Certified Corrosion Technologist. The review notes that the substances stored in tank 396 are considered "non hazardous" by the Environmental Protection Agency and are therefore not regulated by the federal Spill Prevention Control and Counter Measure Program, or SPCC rule. The review further notes that the tanks have "been maintained to some structural adequacy but not necessarily in full compliance with API-653 or EPA standards." API-653 is considered the prevailing voluntary good practice for aboveground storage tank (AST) inspection, repair, alteration and repair, and was developed to establish a uniform national program that assists state and local governments in AST regulations.

API 653 covers basically every age related damage mechanism known, including but not limited to corrosion, brittle fracture and improper fabrication.

While EPA's SPCC rule outlines requirements for prevention and preparedness of oil discharges such regulations do not apply to tanks containing "non hazardous substances" like those found at Freedom Industries. Under existing state and federal laws these tanks, including tank 396, were not regulated by the state or federal government.

Moving forward the CSB will closely examine tank 396. We plan to complete a thorough internal inspection of the tank to determine the tank's condition and wall thickness at the time of the incident. We will also examine tank design, materials of construction, inspection practices, state and federal oversight of similar tanks as well as existing industry best practices. The tanks in use at Freedom Industries were over one-half century old. Considering the best way to improve the safety of tanks at facilities that have similar tanks in use is an important issue that needs to be addressed.

In addition to looking at the causes of the tank failure itself, the CSB team will also examine the response to the leak once it was discovered. We are particularly interested in the adequacy of information on MCHM and PPH hazards since the manufacturer's material safety data sheet

repeatedly says “no data available” for numerous toxicological properties, especially chronic toxicity.

Having information readily available for the public is an issue we will be further examining in regard to ongoing reform of the Toxic Substances Control Act.

Emergency responders, local officials, regulators and public utilities must be provided the proper information in order to protect the community from potential risks, and more than providing information, there needs to be an obligation to require preventative measures.

I would like to also take this opportunity to strongly commend Senator Manchin, Senator Rockefeller and Senator Boxer for promptly introducing legislation aimed at safeguarding water supplies from chemical leaks. Modern standards are strongly needed in this area. I encourage any effort, any legislative reform to follow the basic framework of accident prevention, known as the hierarchy of controls – which is an effectiveness ranking of techniques used to control hazards and the risk they represent. The further up the hierarchy, the more effective the risk reduction achieved. In brief, the most effective accident prevention measures typically involve what is called inherent safety. I realize this is a term that has drawn some controversy, but it is really just a well-established industry-developed concept that focuses on prioritizing the elimination of a hazard, or minimizing it. And, it looks to inherently safer chemical processing and equipment design. For chemical storage tanks like this, the first question that should always be asked is, do they need to be near the water supply for some reason? Unfortunately in the case of Freedom Industries, the answer would have been “no.” The facility was simply a truck terminal, and its position alongside the Elk River just upstream of the water intake had tragic consequences. The facility just did not need to be where it was. And although relocating it would have had some costs, those pale beside the costs that hundreds of thousands of West Virginia residents and businesses are now paying for this disaster.

Another form of inherent safety, or safety in design, is using corrosion-resistant materials for tank construction. That is something we will need to explore further, as we determine the failure mode for this particular tank.

Moving down the hierarchy are engineering solutions that don’t eliminate the risk of an accident but make it far less likely. These may include double-walled tank designs, leak detection systems, and secondary containment structures like dikes and liners. A large segment of the industry has moved in this direction over the many decades since the Freedom Industries tanks were constructed.

Finally near the bottom of the hierarchy are measures such as inspections for corrosion or other potential failure mechanisms. Now, inspections are absolutely essential in any sort of hazardous process operation or storage site. But I would caution that, according to the hierarchy of controls, they are among the least effective of safeguards. Hazards can be missed in inspections – we see that frequently at the CSB. The effectiveness of inspections totally depends on the skill and thoroughness of the inspector. And of course, there can be significant time intervals between inspections, and bad things can happen during those periods. So inspections are essential, but they are not a complete solution by any means. What is needed – and what I hope this legislation leads to – is a holistic approach to preventing these incidents.

West Fertilizer

The CSB has determined that ammonium nitrate fertilizer storage falls under a patchwork of U.S. safety standards and guidance – a patchwork that has many large holes.

These holes include: the use of combustible wooden buildings and wooden storage bins, sprinklers are generally not required, and no federal, state, or local rules restrict the storage of large amounts of ammonium nitrate near homes, schools and hospitals.

A joint chemical advisory issued in August of 2013 by OSHA, EPA and ATF entitled Safe Storage, Handling, and Management of Ammonium Nitrate is an excellent step forward in addressing the hazards associated with the storage of AN, but the current regulatory coverage is still in need of reform.

Fire codes have some useful provisions for ammonium nitrate. But they need significant revision to strengthen the storage requirements for AN. Even if they were revised, we note that Texas and most of its counties have no fire code. So at West, these fire code provisions were strictly voluntary, and West Fertilizer had not volunteered. Almost a year later Texas and its rural counties have not adopted a fire code.

OSHA has some similar provisions for ammonium nitrate fertilizer in its Explosives standard, 1910.109. However, OSHA has not focused extensively on ammonium nitrate storage and hadn't inspected West since 1985. It appears that few if any retail fertilizer operations have ever been cited under this standard, and its provisions for fire protection are less rigorous than those followed overseas for AN.

Other nations have gone much further than the U.S. on ammonium nitrate safety. The UK recommends dedicated, noncombustible storage buildings and noncombustible bins. The U.S. manufacturer, CF Industries, recommends the same and urges sprinklers as well.

But the fertilizer industry tells us that U.S. sites commonly store ammonium nitrate in wooden buildings and bins – even near homes, schools, or other vulnerable facilities. This situation must be addressed.

Preventing the risk of fire essentially eliminates the potential for an explosion as we saw in West, by removing one of the preconditions for detonation.

Facilities like West fall outside existing federal process safety standards, which were developed in the 1990's and are list-based.

Ammonium nitrate would likely have been included, if the EPA had adopted our 2002 recommendation to cover reactive chemicals under its Risk Management Program.

Williams Olefins

The Williams Olefins plant has over a hundred workers, producing ethylene and propylene.

On June 13, there was a catastrophic failure involving a heat exchanger and associated piping which broke loose from a distillation tower. The ensuing explosion led to the deaths of two employees.

The CSB found that the 46-year old heat exchanger did not have adequate pressure relief and over-pressured, possibly due to problems with the materials of construction.

In collaboration with the company and OSHA the CSB has concluded its first round of metallurgical testing on the exchanger metal. We will be looking at whether inherently safer materials of construction should and could have been used in preventing this accident. The CSB plans to publicly release a report on this testing in the next few months.

The CSB investigation is also looking into potential failures of regulatory enforcement at the Williams plant as well as industry standards and regulations. Process safety management systems at Williams are being examined and will be included in the final report.

Concluding Remarks

The bigger picture in process safety is that EPA and OSHA resources are under duress. Regulations need to be modernized – but more inspection and prevention are needed as well.

In the meantime, I hope that the committee will find recent developments in California extremely encouraging.

California's decision to triple the number of dedicated process safety inspectors – funded by industry fees – is an extremely progressive and important step to ensuring a well funded regulator.

Another promising approach is the “safety case”– successfully used by the nuclear and aerospace sectors in the United States and by European countries in the refinery sector – which insurers say have much lower petrochemical accident rates than we do.

Many experts believe this is the best safety regime for complex, technological industries, rather than the U.S. system which calls upon a prescriptive and often outdated rule book that is incapable of adapting to new technology and identified hazards, until the next catastrophic incident occurs.

Thank you again for the opportunity to testify today.

**U.S. Chemical Safety and
Hazard Investigation Board**

**Environment and Public Works Committee Hearing
March 6, 2014
Follow-Up Questions for Written Submission**

Questions for Chairperson Moure-Eraso

Question from:

Senator Barbara Boxer

1. Mr. Moure-Eraso, the CSB has recently issued draft reports on the Chevron Richmond Refinery fire and the Tesoro Anacortes Refinery fire. In each of the draft reports, CSB proposes recommending that the federal and state regulators change their regulatory approach to a "Safety Case" regime. Can you explain how the safety case approach should be implemented and whether it can be done using existing authorities?

Response:

The CSB staff has produced a draft Chevron Regulatory Report that proposes that the California state government implement for California refineries a more rigorous major accident prevention goal-setting regime. These improvements are meant to augment the existing California process safety regulations. This regime is referred to as the safety case regime, it is primarily a goal-setting regime with prescriptive elements that seeks to drive process safety risk to as low as reasonably practicable, or ALARP. A similar safety regime is in place for the nuclear energy sector and NASA. For higher hazard facilities such as chemical plants and oil refineries, this regime has been implemented in all of Europe, Australia, and some developing countries.

The CSB's investigators found that insurance data from Swiss Re indicate the rate of refinery and petrochemical property-loss accidents is at least three times higher in the U.S. than in Europe or other parts of the world which was a major part of the rationale for examining overseas regulatory models.

At the Chevron Richmond Refinery public meeting, CSB's board members deliberated on the staff draft report and passed a motion to consider additional issues before adopting the report. The implementation of the safety case regime requires regulatory changes that would place more of an emphasis on prevention rather than responding to accidents. However, the regulations cannot be implemented without additional resources and the hiring of additional technically qualified staff. Depending on how it is structured, it is possible to implement a safety case regime through rulemaking rather than legislative action.

**U.S. Chemical Safety and
Hazard Investigation Board**

2. Mr. Moure-Eraso, what has CSB's role been in providing recommendations to the Executive Order Working Group? What specific recommendations has CSB made to the Working Group?

Response:

The CSB has been engaged in cordial and productive discussions with federal agencies such as U.S. DOJ, EPA, and DOL, (as well as additional relevant components and departments all within the Executive Branch) in its efforts toward establishing a Memorandum of Understand. The two-person CSB team assigned to these discussions has shared insights into the CSB's mission-related needs for information sharing and has listened to the other agencies' thoughts on the same subject. This process first included responding to an initial draft proposed by DOJ and the EPA on how information could best be shared following chemical accidents. Second, the CSB made two additional, simultaneous proposals on how the group could proceed, such as adopting the MOU between the FBI and the NTSB (the agency upon which the CSB is modeled) during civilian aircraft investigations, and the follow-up suggestion to bring in a mediator from FMCS to help the agencies deal with the most difficult issues. Following the first pathway, numerous drafts of documents have been exchanged, and the latest round of proposed revisions currently rests with the DOJ point of contact for review and comment.

Also in response to the EO, the CSB provided extensive comments to the Occupational Safety and Health Administration (OSHA) in response to the agency's December 9, 2013, Request for Information concerning potential revisions to its Process Safety Management (29 CFR §1910.119), Explosives and Blasting Agents standard (29 CFR §1910.109, and Flammable Liquids (29 CFR §1910.106) standards.

In brief, the CSB urged the agency to do the following:

- Eliminate the Process Safety Management (PSM) standard's exemption for atmospheric storage tanks (at §1910.119(a)(1)(ii)(B)) and/or to revise the Flammable liquids standard (at 29 CFR §1910.106) to require additional safeguards for atmospheric storage tanks.
- Regulate oil and gas well drilling, servicing, and production facilities under the PSM standard.
- Expand coverage and requirements under the PSM standard for reactivity hazards.

**U.S. Chemical Safety and
Hazard Investigation Board**

- Establish a formal mechanism within the PSM standard to add to the list of highly hazardous chemicals, or to change the threshold quantity of a highly hazardous chemical, without the need for extensive rulemaking.
- Incorporate additional management system elements into the PSM standard, including requirements for
 - Comprehensive evaluation of inherently safer technologies, human factors, facility siting, damage hazard mechanisms, and the adequacy of controls to safeguard against identified process hazards,
 - Reporting of leading and lagging process safety indicators, and
 - Implementation of a stop work authority.
- Require PSM-regulated entities to evaluate updates to applicable recognized and generally accepted good engineering practice.
- Expand the scope of the PSM standard to require regulated entities to secure the ongoing mechanical integrity of all safety-critical equipment.
- Incorporate an explicit requirement that Management of Change Analyses be conducted for organizational changes (e.g., mergers, leadership changes, budget cuts, etc.) that may affect a PSM-covered process.
- Require PSM-regulated entities to coordinate facility emergency response planning with local emergency response authorities.
- Consider the use of third-party audits to augment regulatory enforcement efforts.
- Ensure regulatory requirements in either PSM or the Explosives and Blasting Agents standard (at 29 CFR §1910.109) for the disposal of explosives, blasting agents, and pyrotechnics.
- Update the Flammable Liquids standard in accordance with the latest edition of the National Fire Protection Association's NFPA 30: *Flammable Liquids Code*.
- Clarify the title, language, and scope of the Explosive and Blasting Agents standard (at 29 CFR §1910.109) to more clearly indicate coverage of the fertilizer industry and to provide more explicit safety requirements.
- Reconsider the applicability of PSM retail exemption (at 29 CFR §1910.119(a)(2)(i)) to facilities like West Fertilizer in West, TX, which store bulk quantities of hazardous materials in excess of the listed PSM threshold, and may present a catastrophic release hazard, but are presently exempted from coverage since more than half of their income is derived from the direct sales of PSM-regulated chemicals to end users.
- Change the agency's enforcement policy for Highly Hazardous Chemicals listed in Appendix A of the PSM standard without specific concentrations to adopt the more-straightforward approach elaborated in the U.S.

**U.S. Chemical Safety and
Hazard Investigation Board**

Environmental Protection Agency's Risk Management Program List Rule
criteria.

Senator David Vitter

1. In the hearings question and answer session you seemed to agree that the EPA does not have the resources necessary to properly implement IST and/or safety case, why would you and/or the CSB advocate for solutions that are not implementable? Do you believe EPA will be getting significantly greater resources in the near future? Do you believe it would make more sense to advocate for policies that could be readily implementable by industry and regulated effectively by the federal government rather than advocating for more regulations and changes to current laws further burdening regulators when they already lack the resources to enforce? Isn't the prevention of future accidents more likely if recommendations made by the CSB are realistic and properly implementable?

Response:

There are two CSB draft reports that recommend implementation of IST and the safety case regime. The CSB's Chevron report states that additional technically qualified personnel will be needed to effectively implement these preventative programs. Companies such as Swiss Re have identified a much lower accident rate in those countries that have adopted the safety case and implemented IST. We believe that overall, there will be significant savings to the economy and productivity as well as the protection of people and the environment from adopting a preventative strategy to major accidents. Even a single large accident like West Fertilizer, BP Texas City, Deepwater Horizon, or Imperial Sugar can result in hundreds of millions or billions of dollars in damages and lost wealth, to say nothing of the human impact.

2. Despite your claims during the hearing that no votes with regard to the CSB's Chevron refinery recommendations had taken place, a June article in the Contra Costa Times states that "two of the three board members voted against adopting" many of the recommendations you advocated for in your testimony. The article goes further to note that you were "the only member who voted to approve the plan" and that you released a statement that "criticized" your colleagues' decision. Mr. Moure-Eraso is this article inaccurate? If it is not, why did you mislead the committee and state that no vote had yet taken place? Is it common for the Chairman of the CSB to advocate for positions voted down by a majority of the CSB?

Response:

**U.S. Chemical Safety and
Hazard Investigation Board**

At the January 2014, CSB public meeting, which is what we believe you are referencing, no vote was held to either approve or disapprove the report. The headline of the Contra Costa Times story, which appeared on January 16, 2014, is inaccurate. Rather, the Board passed a procedural motion to postpone a decision on the report for a definite period of time in order to allow for additional gathering of information on the proposed recommendations. The vote taken was solely procedural and did not indicate either approval or disapproval of the report. A full transcript of the meeting is available on the CSB website at:
<http://www.csb.gov/assets/1/19/Transcript6.pdf>

3. The Contra Costa Times article further stated “The safety board recommendations...come under fire from industry, the scientific community, and labor and political interests.” Do you simply reject the concerns raised by not only “the scientific community, and labor’s interests as well as a majority of the CSB members themselves?

Response:

At this point, the recommendations remain in draft form, as made clear in this CSB news release:

<http://www.csb.gov/in-wake-of-chevron-2012-pipe-rupture-and-fire-in-bay-area-csb-draft-report-proposes-overhaul-of-refinery-industry-regulatory-system-in-california-and-urges-adoption-of-the-safety-case-regime-to-prevent-major-chemical-accidents/>

In addition, it should be noted that the majority of people who participated in the public comment portion of the January 15, 2014, public meeting supported the proposal, and most of the expert peer reviews the CSB obtained for the draft report and recommendations were favorable.

The safety case system has broad support in many countries because it shifts the regulatory focus toward prevention rather than post-accident punishment. Thus the bipartisan Presidential Oil Spill Commission recommended that the Interior Department adopt a safety case approach for offshore exploration and production.

4. You mentioned in your testimony that inspections “are among the least effective safeguards” and “the effectiveness of inspections totally depends on the skill and thoroughness of the inspector.” Do you believe that EPA has inspectors with the necessary “skill and thoroughness” and enough of them to oversee the implementation of IST and all the other federal mandates you are advocating for? (see the IG report I referenced in my email)

Response:

**U.S. Chemical Safety and
Hazard Investigation Board**

When we say inspections are among the least effective safeguards we are talking about equipment inspections such as identification of high-temperature hydrogen attack (HTHA) in a pressure vessel or attempting to identify pieces of low-silicon carbon steel piping that are aggressively corroding from sulfidation. This use of the term “inspection” is unrelated to inspections by a regulator of a facility’s process safety program.

The firmly held industry view referred to as the “hierarchy of controls” provides that safeguards such as eliminating the hazard or implementing engineering controls are more effective for accident prevention than procedural safeguards such as equipment inspections. The ineffectiveness of these types of technical inspections is also detailed in the CSB’s Tesoro Anacortes and Chevron Richmond draft investigation reports.

Link to Draft Chevron Report:

http://www.csb.gov/assets/1/19/CSB_Chevron_Richmond_Refinery_Regulatory_Report.pdf

Link to Draft Tesoro Anacortes Report:

http://www.csb.gov/assets/1/19/Tesoro_Anacortes_2014-Jan-29_Draft_for_Public_Comment.pdf

5. You also advocate for the implantation of a “safety case” regime which requires up-front “acceptance” from “highly technically competent inspectors with skill sets familiar to those employed by the industries they oversee.” Do you believe that the proficiencies of EPA inspectors have a more thorough, effective, and sophisticated understanding of site-specific safety conditions than onsite safety experts and engineers who are intimately familiar with the jobsites? Could you please quantify, delineate or explain criteria on what standard a regulator must follow before an employer’s safety case is “accepted?”

Response:

The CSB’s draft reports addressing the safety case contain proposed recommendations to state safety agencies and the California State Legislature. Hypothetically, if the EPA were the agency that was subject to the CSB’s recommendations, it would need technical personnel on par with the personnel at a refinery who would develop a safety case. This would require some additional resources for the regulator to fully understand and challenge the safety case or safety report. The standards would be the same standards currently used by industry including ASME, API, CCPS, ISA, etc. In essence, the regulator would be looking to ensure the safety case was thorough and that hazards are reduced to something equivalent to as low as reasonably practicable, or ALARP. The

**U.S. Chemical Safety and
Hazard Investigation Board**

regulator will have the ability to compare and contrast risk mitigation approaches of similar units at each facility. Best practices will be identifiable and can be used to further support reduction of risk to ALARP. The other attributes of the safety case provide a more robust approach to overall process safety management. For example, the safety case is better able to adopt and address newly discovered hazards, recommendations from major accidents, and updated safety standards.

6. Are you aware that in New Jersey's IST program they created their own definition of IST and extended it to routine safety improvements and "simplification" strategy? Do you consider routine safety upgrades such as installing new computer systems and upgrading construction materials? Is this the IST model you are advocating for being implemented nationwide?

Response:

The CSB's Board-approved Chevron Interim Report contains recommendations for the implementation of inherently safer solutions for the state of California and Contra Costa County (to the greatest extent feasible). These recommendations address the prevention of potentially catastrophic accidents such as fires, explosions, and toxic releases. The intent of the recommendation is to address equipment and safety systems that can potentially have an impact on the initiation of a catastrophic accident. As such, the focus would not be on routine improvements that do not have an impact on major accident prevention. The state of California and Contra Costa County are currently undergoing rulemaking to address the CSB IST recommendations. The CSB has not examined New Jersey's program in detail.

7. In your opinion should IST take into account factors such as risk shifting, unintended consequences, feasibility, and economic impacts? Does EPA have the resources and expertise to do that extensive analysis? How does the President's budget proposal facilitate your ideas?

Response:

The CSB's final Chevron Interim Report contains recommendations for the implementation of inherently safer solutions that consider feasibility (to the greatest extent practicable). Likewise, the CSB's draft Tesoro Anacortes investigation report contains proposed recommendations that EPA implement IST. Although not a part of the CSB recommendation, it is likely that in order to effectively implement IST the EPA would need to hire additional technically competent staff to work in its risk management program.

It is important to note that California is currently in the process of tripling its force of refinery safety inspectors using fees collected from industry (a possible alternative model). Another point to emphasize is that the alternative to having the regulator involved is that decisions on reducing, shifting, or increasing chemical

**U.S. Chemical Safety and
Hazard Investigation Board**

process risks are solely under the control of the private sector. Other countries with successful chemical enterprises have their regulators involved in ensuring that industry follows the hierarchy of controls and reduces preventable risks.

8. The 2013 CSB Chevron Richmond Refinery Report, and the CSB during a January 15 public hearing in Richmond, CA, admits that there have been few objective studies conducted on the impact of the safety case regulatory approach on safety performance onshore and offshore and further acknowledges many of the widely documented problems with the implementation of the safety case regime.

With that in mind, how can CSB justify recommending the implementation of an underdeveloped and unproven program in OSHA state plan states while ensuring that the framework is “at least as effective in providing safe and healthful employment and places of employment” as the standards promulgated by Federal OSHA?

Response:

The safety case is a mature major accident prevention program that groups such as Swiss Re have identified as having led to greatly reduced financial losses due to major accidents in the chemical process sector. The CSB draft reports identified an unacceptable number of accidents in U.S. oil refineries. For example, in 2012 there were 125 significant accidents in U.S. refineries. Voluntary programs are important, but the number of recent accidents indicates that not all companies are volunteering to follow best practices.

Please note that the CSB draft Chevron Regulatory Report addresses issues that have been raised about the safety case, but our research indicates it is a more successful system. The attributes or key features of the safety case are more robust than the current PSM and RMP regulation. These attributes readily enhance process safety.

It is possible to add safety case elements into the existing PSM framework, so there is not a danger that moving toward a safety case would weaken safety in states that followed it.

9. In the 2013 CSB Chevron Richmond Refinery Report as well as your testimony, CSB admits that the safety case program could only be effective if fully staffed with experts to implement the regime’s procedures and set its limits, including staff with appropriate technical backgrounds and industry experience to evaluate and approve safety case plans. Yet CSB acknowledges in the 2013 Report that programs with similar upfront inspection goals have failed due to resource limitations, such as the inability of the EPA to conduct proactive audits of RMPs.

**U.S. Chemical Safety and
Hazard Investigation Board**

How does CSB envision that this proposal for California, which has the same resource constraints as federal agencies in proportion to the number of covered sites in that state, would be any more effective?

Response:

The safety case approach is significantly different than the RMP program, which enforces largely activity-based regulations rather than effective goal-setting. As referenced in the draft Chevron Regulatory Report, the EPA IG has noted significant weaknesses in the RMP program.

The safety case recommendation is focused on 15 petroleum refineries in California to improve the performance of the refining industry. Comparing the resources for such an effort to all RMP facilities is not valid. California has and is working to require refineries to provide the funding needed for the additional regulatory resources. California state government recently approved funding for 15 additional process safety inspectors.

10. Can IST help if there is a failure to identify something as a hazard? If something is failed to be identified as a hazard, couldn't that in itself be the cause of an accident rather than the lack of an IST mandate?

Response:

Industry good practice guidance for major accident investigation provides that these incidents occur as a result of multiple causes. Consequently, recommendations need to address all the causes identified. It can be the case that there is a failure to identify a hazard (which could be identified by a competent regulator) and that control of the hazard can be best addressed through IST. For example, in our recent Chevron and Tesoro incident investigations, where the CSB has recommended or proposed implementation of IST, both the different corrosion hazards and the use of inherently safer materials to protect against mechanical failure were well known to the industry and to the companies involved. But the companies did not voluntarily adopt IST solutions.

11. A plain reading of the GDC, supported by the legislative history of the provision, establishes that the GDC does not authorize the creation of new programs or the issuance of new regulations. EPA's current interpretation of the GDC accepts this limitation. EPA's statutory role under the GDC is not to create sweeping new programs, but instead is to use the agency's routine enforcement authorities where it finds that regulated entities are not following recognized industry standards and practices to prevent and mitigate accidental releases. How do you propose that the GDC be used to require IST when the reading of the statute and the history clearly

**U.S. Chemical Safety and
Hazard Investigation Board**

does not lend itself to EPA attempting to create a new IST regulatory requirement?

Response:

The plain meaning of the text of the GDC itself provides evidence that IST could be required by EPA enforcement powers. Specifically, as noted on the EPA's website:

Under the Clean Air Act Section 112(r)(1), the General Duty Clause states: "The owners and operators of stationary sources producing, processing, handling or storing such substances [i.e., a chemical in 40 CFR part 68 or any other extremely hazardous substance] have a general duty [in the same manner and to the same extent as the general duty clause in the Occupational Safety and Health Act (OSHA)] to identify hazards which may result from (such) releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur." (Emphasis added). The design of a facility is thus considered a necessary element to prevent a release. This is especially true in chemical and petrochemical plants. A good engineering design solution, such as installing alloy piping that could have resisted sulfidation corrosion, would have prevented the recent Chevron Richmond refinery accident, investigated by the CSB. No new sweeping programs are required, only enforcement of the existing thrust of congressional intent in creating the GDC. Limited implementing regulations could give life to the statutory requirement and would then provide needed clarity to regulated industries.

12. What would you estimate would be the resources required for a regulatory agency to evaluate and identify adequate IST considerations for all chemical processes and facilities?

Response:

The CSB has not conducted an evaluation of the resources necessary. In addition, the CSB's draft recommendations are generally focused on the largest and highest hazard facilities, such as refineries.

13. How would small companies such as West Texas and Freedom Industries perform IST evaluations given the complexity and size of such an analysis?

Response:

In both cases, the companies declared bankruptcy after their respective incidents. Had the proprietors of West Fertilizer Company (WFC) considered the potential for disaster based on the amounts of ammonium nitrate (AN) stored on site in

**U.S. Chemical Safety and
Hazard Investigation Board**

combustible containment and proactively and systematically replaced the wooden bins—some of which were already abandoned—inherently safer non-combustible storage might have been constructed.

In the case of Freedom Industries, the tanks involved in the release were of pre-World War II vintage, and were not emptied and inspected to ensure their integrity. Had the tanks been upgraded using current metallurgical technology, the corrosion that led to the January 9, 2014, release might have been averted. Both of these cases exhibit how application of IST principles would have prevented these incidents from occurring. IST principles can be equally applicable to small businesses and to the storage of chemicals (usually a simpler problem than manufacturing and processing).

14. How do you view IST as the method to improve safety? The examples given to date in the EO 13650 and in statements by the CSB discuss incidents that were the result of lack of enforcement of existing regulations. Would it not be more cost effective to invest in outreach, educational training, cooperative industry-government initiatives, and enforcement of existing regulations than to develop complex and impracticable new regulations?

Response:

The CSB's draft Chevron and Tesoro reports identify gaps in existing regulations and industry standards that were causal to the incidents, rather than lack of enforcement of existing preventative regulations. For example, in the Chevron Interim Report, the CSB identified the gap that existing regulations did not require – damage hazard mechanism reviews as part of the process hazard analysis PSM element – which could have identified that Chevron had not effectively addressed sulfidation corrosion in its crude unit. It is the CSB's view that the existing API industry standard addressing sulfidation corrosion lacks requirements for component inspections and the use of safer materials of construction. The language of the API standard is permissive and contains no minimum requirements, which renders the standard ineffective and not enforceable by the state regulator.

15. Do you agree that the main issue related to the West Fertilizer tragedy was a storage issue, not an air release issue? If yes, wouldn't safety be best served by focusing on compliance with OSHA 29 CFR 1910.109(i) regulations? Before layering on new requirements, shouldn't agencies that already have Ammonium Nitrate safety programs and requirements in place work with industry on compliance assistance and enforcement? What type of compliance assistance would CSB recommend?

Response:

**U.S. Chemical Safety and
Hazard Investigation Board**

The unsafe storage of ammonium nitrate (a solid) led to a massive explosion, which constitutes an “air release” event similar to others that are covered under EPA Risk Management Program rules.

There are existing OSHA requirements for AN storage under 29 CFR 1910.109(i) and West Fertilizer were cited for allegedly failing to comply with some of those requirements. However, no agency has determined that the alleged violations were causal to the fire and explosion at West.

The 1910.109(i) requirements are weaker than overseas recommendations for AN storage; for example, 1910.109(i), which is based on very old fire code provisions, *allows* AN to be stored in wooden buildings and does *not* require sprinklers for the amount of AN stored at West. Overseas guidance documents (as well as current recommendations from U.S. explosives manufacturers) indicate that AN should be stored in dedicated noncombustible buildings (e.g. concrete) and equipped with sprinklers. Preventing any chance of fire is the only sure way to avoid the repetition of what happened at West.

In addition to adopting more modern storage requirements, the scope and application of the 1910.109 standard should be clarified so that companies storing fertilizer-grade AN are clearly aware of what is required. 1910.109 also lacks a number of the beneficial elements of the current PSM and RMP standards, such as hazard analysis, employee training, and conformance with recognized and generally accepted good engineering practices. Thus the listing of AN under one or more of these programs would have additional safety benefits, beyond the storage requirements of 1910.109.

16. CSB has made allegations that the construction of the West facility was the direct cause of accident. Would CSB support research for retro-fitting wooden bins at existing facilities? If yes, please include CSB’s cost benefit analysis in supporting this recommendation.

Response:

Cost-benefit analyses are generally outside of the CSB’s purview and are conducted by regulatory agencies considering new rules. However, we would support research and studies on the most cost-effective ways to fireproof existing combustible facilities that store AN. We do know that the West facility was insured for \$1 million, and the early estimates of damages for the site, residences, and structures including schools, apartment complexes and a nursing home in addition to the infrastructure of the city were placed at about \$100 million or more. Following a 2009 fire at the El Dorado Chemical facility in Bryan, Texas, which stored fertilizer grade AN, the destroyed facility was rebuilt with non-combustible materials (a concrete dome) for an estimated cost of about \$100,000. Thus we believe that prevention can be much less expensive than having an AN accident, even setting aside the tragic loss of life.

**U.S. Chemical Safety and
Hazard Investigation Board**

17. In your investigation is there anything determination that putting Ammonium Nitrate on the Risk Management Program (RMP) list would have prevented a tragedy like West?

Response:

West Fertilizer was covered under RMP Program Level 2 for its storage of anhydrous ammonia (but not the ammonium nitrate). The company submitted its RMP registration in 1999, 2006, and 2011. As a result, during the EPA's last inspection of West in 2006, the company hired a consultant to develop its RMP for anhydrous ammonia. This program included important safety elements to prevent, control and respond to an anhydrous ammonia release. For example, a hazard review was conducted to identify major release scenarios and address actions that would prevent or mitigate a release. Another important feature of the RMP was the development of an emergency action plan that listed step-by-step procedures detailing how employees should respond to an anhydrous ammonia release. EPA's RMP program also required West to comply with recognized and generally accepted good engineering practices with anhydrous ammonia.

AN is not listed under EPA's RMP list of chemicals and therefore West was not required to take these safety measures with AN. AN coverage under the RMP (at Program Level 2) would have required the company to prepare a worst-case scenario for an AN incident (which would have revealed the vulnerability of the nearby homes, schools, medical facilities, and businesses); ensure response actions were coordinated with local agencies; follow recognized and generally accepted good engineering practices for AN storage; conduct a hazard review for AN; and develop operating procedures and conduct employee training specific to the hazards of AN storage. These measures would likely have helped prevent or mitigate the incident that occurred.

18. In your testimony, you state that "Ammonium nitrate would likely have been included, if the EPA had adopted our 2002 recommendation to cover reactive chemicals under its Risk Management Program." The EPA RMP program was authorized by Congress in the "Clean Air Act of 1990" under the "Air Toxics" Title of the bill following the tragedy that occurred in Bhopal, India. The RMP program was created to prevent the "accidental release" of extremely hazardous substances into the air and minimize the consequences of any such release.

Is it CSB's position that Congress would need to make statutory changes to the EPA RMP program to allow the agency to add hazardous chemicals that deal with issues beyond "accidental releases" as defined by Congress in the Clean Air Act of 1990? Where does EPA have the statutory authority to add a product like solid ammonium nitrate fertilizer to program authorized by Congress to address accidental toxic releases to the air from a gas or liquid?

**U.S. Chemical Safety and
Hazard Investigation Board****Response:**

Though the intent of the EPA RMP program was to prevent immediate air releases of toxic chemicals in response to the Bhopal tragedy, the incident at West Fertilizer has shown that the chemical storage of solid ammonium nitrate has the potential to produce significant offsite consequences. As the CSB found in its 2002 Reactives Study, the majority of incidents involved reactive chemicals that were not listed under the EPA RMP. The 1990 CAA amendments required EPA to promulgate regulations to prevent the accidental release of substances that could cause death, injury, or serious adverse effects to human health or the environment. Congress directed EPA to regulate at least 100 substances and to take into account several factors when developing a chemical list, including the toxicity, reactivity, volatility, dispersibility, combustibility, or flammability of the substance, and amount of the substance. The current EPA EHS list took into account only factors involving toxicity and flammability, and no reactives were included on the list, or considerations for individually determining chemical reactivity for coverage under RMP.

Statutory changes would not be required because the 1990 CAAA directed that reactive hazards be addressed in the promulgation of the listed substances.

19. In EPA's written testimony submitted to this committee for the June 27, 2013 hearing, EPA Principal Deputy Administrator Barry Breen, when discussing the RMP program, stated, "To develop the list, several statutory factors were considered, including the severity of any acute adverse health effects associated with accidental releases of the substance, the likelihood of accidental releases of the substance, and the potential magnitude of human exposure to accidental releases of the substance." He goes on to define an "accidental release" as "an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source." Do you agree with EPA that there are statutory factors the agency needs to consider when adding any hazardous substances to the RMP list? If so could you list the factors that you feel EPA should consider?

Response:

This is a matter squarely in the purview of the EPA. The CSB's mission is to investigate releases that have already occurred, to determine the root causes of the accidents that led to those releases, to report its findings on those causes, and to make recommendations aimed at preventing recurrence. The substance of this question is best left to the regulator, and as such should be directed to an appropriate representative of the EPA.

In 2002, the CSB made a recommendation for EPA to more thoroughly cover reactive hazards, including substances such as ammonium nitrate, which has been

**U.S. Chemical Safety and
Hazard Investigation Board**

shown to cause significant offsite consequences in past accidents. As stated above, the CAAA of 1990 called for an evaluation of reactive hazards, however, the EPA did not specifically consider reactivities when promulgating the list of substances. The CSB believes that it is within EPA's regulatory authority to more effectively address reactive hazards under RMP.

20. In EPA's June 27, 2013 written testimony, Breen stated that "The goal of the EPA's Risk Management Program is to prevent accidental releases of substances to the air that can cause serious harm to the public and the environment from short-term exposures, and to mitigate the severity of releases that do occur." Do you agree with that statement? How would you define short-term exposure? Is this consistent with current EPA interpretations?

Response:

This is a matter squarely in the purview of the EPA. The CSB's mission is to investigate releases that have already occurred, to determine the root causes of the accidents that led to those releases, to report its findings on those causes, and to make recommendations aimed at preventing recurrence. The substance of this question is best left to the regulator, and as such should be directed to an appropriate representative of the EPA.

21. Do you agree that the West Fertilizer tragedy pointed out that we have issues with many Local emergency Planning Commission (LEPC) program and EPCRA reporting system? What would CSB recommend to improve and enhance education / training / emergency response efforts between chemical facilities and their local LEPC and first responders?

Response:

According to officials from the National Association of SARA Title III Program Officials (NASTTPO), the LEPC and EPCRA reporting systems are subject to the ups and downs of funding, and the level of engagement of volunteers that make up the core supporters of the effort. Levels of commitment are also subject to low activity prompted by a lack of actual events. Areas that are in the pathway of regular natural disaster threats such as hurricanes, floods and tornadoes are more likely to have a robust and engaged LEPC program. Additionally, the programs are challenged by a high incidence of burnout for volunteers. Another challenge faced by LEPCs is the general acceptance of risk of a hazard, the longer it exists. Finally, although LEPCs report to SERCs there appears to be no mechanism to ensure that SERCs are regularly auditing systems to evaluate the rigor of LEPC processes. The changing world of emergency response and the inclusion of advanced technology and programs such as Computer-Aided Management of

**U.S. Chemical Safety and
Hazard Investigation Board**

Emergency Operations (CAMEO)¹ requires updated and refresher training for participants in LEPCs. The CSB would recommend regular, programmatic training for all LEPCs so that they stay current with emerging technologies and practices, in addition to establishing an oversight process to ensure continuity across all regions of the country, regardless of levels of activity.

22. On March 12, 2014, the Chemical Safety Board (CSB) posted a video to its website entitled, "The Human Cost of Gasoline." The video was distributed through various media platforms, including digital. The video features an interview, apparently conducted by CSB personnel, or a contractor retained by CSB, with the sister of a Tesoro employee fatally injured at the April 2, 2010, incident at Tesoro's Anacortes refinery. The video also references the fact pattern surrounding that incident and the initial findings of cause made by the CSB almost four years after the incident occurred.

- a. Was the filming of, script creation for, and expenses associated with the video referenced above paid for by the CSB using appropriated federal funds? If not, how was it funded? If the answer is "no", then does the video include portions of the CSB animation for the Tesoro Anacortes incident? Was this animation paid for by the CSB using appropriated federal funds?

Response:

The CSB used appropriated funds to pay for the Tesoro animation and the creation of the safety video referenced above.

- b. Did CSB personnel film or otherwise cause or participate in the production of the video or any portion of the video? If the filming or production of the video was contracted for, what was the name of the contractor?

Answer: Under the direction of the CSB's Communications Manager, the CSB's video production contractor oversaw and participated in the production of the video. The contractor was Sandy Gilmour Communications, LLC.

- c. How much did the filming, production, and other expenses associated with the video actually cost?

Response:

The production cost of the CSB's safety message was approximately \$11,500.

¹ The CAMEO software suite is a system of software applications used widely to plan for and respond to chemical emergencies. It is one of the tools developed by EPA and the National Oceanic and Atmospheric Administration (NOAA), to assist front-line chemical emergency planners and responders.

**U.S. Chemical Safety and
Hazard Investigation Board**

- d. Please explain how this video does not violate Section 402 of Title IV, Division G, of the Department of Interior, Environment and Related Agencies Appropriations for FY 2014?

Response:

The video presents the statements of Amy Gumbel, whose brother died in the above-mentioned refinery fire. The video neither supports nor opposes any legislative proposal on which Congressional action is not complete (there is no such proposal).

- e. Please explain how this video does not violate Title 18 United States Code Section 1913?

Response:

The video depicts information concerning the refinery explosion occurring at Anacortes, Washington, and includes interview footage with one of the victim's family members. It was not intended or designed to influence a Member of Congress, or any other official, with respect to any prospective, proposed or pending legislation.

- f. Please explain how the creation and subsequent dissemination of this video related to the CSB's January 29, 2014, Investigation Report of the Anacortes incident referenced above?

Response:

The goal of the CSB's victim safety video series is to share how industrial accidents – like the one at Tesoro – have long term effects on the individuals, families and friends of the victims affected by these incidents. The CSB's goal was to share the story of this particular individual and her family and how they have struggled to come to terms with the loss of a loved one. The broader objective is to remind managers and employees of the overarching importance of effective safety programs in order to prevent similar tragedies befalling families and communities.

- g. Has the CSB previously caused the production and release of similar videos? If so, please provide copies of same to the Committee.

Response:

The CSB previously released an accident victim video documenting the story of a young woman who was severely burned during a high school chemistry

**U.S. Chemical Safety and
Hazard Investigation Board**

laboratory demonstration. The video was entitled "After the Rainbow" and is available online at:

http://www.youtube.com/watch?v=g6vR0BdRCNY&list=UUXIkr0SRTnZO4_QpZozvCCA

- h. The title of the video appears to be unrelated to CSB's mission statement. Please explain how and why CSB chose this title for the video.

Response:

The title of the video corresponded with an op-ed written by our Chairperson which appeared in the Seattle Times. Its intent was to convey the costs that refinery accidents have on workers. Below is a link to the op-ed:

http://seattletimes.com/html/opinion/2022938878_rafaelmoureerasoopedtesororefinery19xml.html

Senator BOXER. Thank you so very much.
Senator Vitter.

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

Senator VITTER. Thank you, Madam Chair. Sorry I am late; I had to be on the floor at 10. But I certainly wanted to participate in this hearing.

I think we have a historic opportunity to come together in this committee on a bipartisan basis, not just on infrastructure issues, which, thankfully, we have a long tradition of doing, but on some environmental issues specifically in the chemical safety area. So I just want to say, in general, I am committed to that process which is ongoing. I am committed to continue to work with you and Senator Manchin on the Manchin bill.

We have some serious substantive concerns that we are working through, but I am committed to trying to work through that and I appreciate your putting off the markup until April to give that process the time it needs. And I think we have a broader opportunity in chemical safety to move forward in a bipartisan way. It is a historic opportunity. It hasn't happened on this committee on any major environmental issue in decades, so I really hope we take full advantage of that opportunity.

I also want to thank our witnesses for your testimony.

Mr. Moure-Eraso, I wanted to ask you, are you here representing yourself or CSB? Because I am specifically interested in the safety case scheme and your Chevron investigation, which I did not think had the consensus support of CSB.

Mr. MOURE-ERASO. Well, I am presenting testimony here as the head of the agency, the Chemical Safety Board, and we are still waiting to vote on the decision on that report in which we recommended the safety case.

Senator VITTER. OK. So far, isn't it true that the safety case program, specific recommendations to implement that, does not have consensus support, at least as we speak today, of the whole board?

Mr. MOURE-ERASO. We haven't voted on it. We defer it to further study to vote to make a decision on that point, Senator.

Senator VITTER. OK. Mr. Moure-Eraso, you mention in your testimony that inspections "are among the least effective safeguards" and "the effectiveness of inspections totally depends on the skill and thoroughness of the inspector." Do you think EPA has inspectors with the necessary skill and thoroughness, and enough of them, to oversee the implementation of IST and all other Federal mandates that you are supporting?

Mr. MOURE-ERASO. In my experience, I will say that I believe there are people with the necessary skills in EPA to look at the situations; however, my concern is that probably there might not be enough and that there are more resources necessary to have enough to cover the different places that they have to cover.

Senator VITTER. In your opinion, should inherently safer technologies take into account factors such as risk shifting, unintended consequences, feasibility, and economic impacts?

Mr. MOURE-ERASO. Absolutely. That is part of the process of dealing with inherently safer technologies, is to look at what are

you replacing and to be sure that what you are replacing is not going to cause more trouble than what you had before. So it is an engineering process of very carefully and systematically looking at what you should act, what you should change to improve and prevent negative outcomes. All the considerations of comparing what you are substituting for what you are proposing have to be taken into account.

Senator VITTER. And you think EPA has the resources and expertise to do all of that analysis specifically with regard to risk shifting, unintended consequences, feasibility, and economic impacts?

Mr. MOURE-ERASO. I believe so. As I said, the science and the engineering capabilities of the agency obviously are there. My only concern is that there might be not enough inspectors without the additional resources for enough inspectors to look at these issues.

Senator VITTER. OK. Are you aware of the budget growth EPA has had in the last 5 years or so?

Mr. MOURE-ERASO. Not in very much detail, no.

Senator VITTER. OK. All right, thank you.

Senator BOXER. Thank you, Senator.

So, Senator, you have asked your questions, so is it OK if I ask mine, then we will move on to the next panel, because we have votes?

Senator VITTER. Sure.

Senator BOXER. Thanks.

Mr. Stanislaus, I heard you say West Virginia was an accident. In my opinion, that leak was not an accident. Would you want to reconsider using that word or you still think it was an accident, the leak?

Mr. STANISLAUS. Well, clearly it was a catastrophic failure. Based on information that we know right now, there were practices that should have been—

Senator BOXER. I mean, no truck slammed into this tank, as far as we know. This was a tank that was not equipped, apparently, to hold this chemical, which then leaked into the water. So I am just saying when you say it is an accident, I think you ought to reconsider that. I don't see that as an accident; I see it as a failure, as you say, of the equipment to hold the chemical.

Mr. STANISLAUS. I agree.

Senator BOXER. Good. OK. Mr. Stanislaus, you are the co-chair of this Working Group and yesterday I got another report. I am looking for action here, not a lot of words, and so far I have seen a lot of words. And it is good that you updated the advisory, which I recommended that be done, since you hadn't updated it since the 1990s. That was good. But when can I expect to see actual actions that are recommended and taken?

Mr. STANISLAUS. So, Chairman Boxer, as I detailed in my opening comments, we have already taken certain actions that we are in the midst of evaluating, for example, whether there are any outliers between the RMP program and the DHS's CFATS program, meaning other facilities that should be subject to the RMP program that—

Senator BOXER. The Risk Management Program.

Mr. STANISLAUS. I am sorry?

Senator BOXER. You are talking about the Risk Management Program?

Mr. STANISLAUS. The Risk Management Program. We are comparing facilities that are in DHS's CFATS program—

Senator BOXER. Well, don't use these acronyms.

Mr. STANISLAUS. OK.

Senator BOXER. Please explain what you are talking about.

Mr. STANISLAUS. Well, DHS's chemical facility data base, we are comparing facilities under that data base to EPA's Risk Management Planning data base to identify whether facilities that should have been subject to Risk Management Planning program but did not submit. So we are in the midst and have contacted those facility owners. But we are planning some immediate short-term, mid-term, and long-term actions.

Senator BOXER. When will I hear about that? When will we hear about that, this committee?

Mr. STANISLAUS. We will report. Just yesterday we identified a number of actions with respect to strengthening the local response, capability, and capacity. One of the core things that we have heard from local responders, local communities, and State emergency response commissions was the need for combination of resources and technical assistance to the participation of all States—

Senator BOXER. So just tell me when will we get from the Working Group, because the President did this because he was so dismayed. He went down to West, Texas. When can we all expect to see specific steps that you will be taking?

Mr. STANISLAUS. So we plan to submit a report to the President in the end of May.

Senator BOXER. Thank you.

Mr. STANISLAUS. OK.

Senator BOXER. OK. You brought up the issue of how you classify different chemicals, whether they are risk-managed. And you haven't done that with ammonium nitrate. Shouldn't that be part of the risk management system?

Mr. STANISLAUS. Well, clearly we are evaluating that. We are in the midst of public comment regarding whether ammonium nitrate should be regulated under the Risk Management Plan program. We are also looking at regulating under the Risk Management Planning program, as well as the way that it is regulated currently under other of our Federal agency programs. The Alcohol, Tobacco, and Firearms currently regulates it from an explosive perspective. OSHA also regulates it—

Senator BOXER. OK, let me cut through this, because we just don't have a lot of time, sorry. The Chemical Safety Board, sitting next to the chairman here, has recommended that you should add explosive hazardous chemicals, including ammonium nitrate to EPA's Risk Management Program.

Instead, you did the advisory, which I am glad you did that, but I don't know it is taking so long for you to figure this out. They have been on the record and I am just saying it means a lot if you take that type of action, and I just don't understand why you wouldn't do it, given all the deaths that we have seen. So I was dismayed you didn't act on their recommendation to add explosive chemicals to your Risk Management Program, and I am going to

continue to press on that and hope that you will do so, because we are seeing the results of not doing it.

So the last thing I would say is will you commit that the Working Group will look at the oversight of aboveground storage tanks under the Clean Water Act?

Mr. STANISLAUS. Well, per your letter yesterday, we certainly are going to evaluate the utilization of existing authorities, including under the spill prevention containment countermeasure program.

Senator BOXER. Thank you.

So I see, Senator Markey, you are back. Would you have some questions?

Senator MARKEY. I do. Thank you, Madam Chair.

Senator BOXER. Please go ahead, yes.

Senator MARKEY. I appreciate it. Thank you.

Mr. Moure-Eraso, at times the chemical industry has said that inherently safer technology could result in huge expense for industry, or even the elimination of common household goods or medications. But inherently safer technology is not exclusively focused on substituting safer chemicals for more dangerous ones. Isn't it true that the 2012 Chevron refinery accident in California that caused a huge fire and the 2010 explosion at the Tesero refinery in Washington State could have been prevented if aging pipes and other systems had been replaced by corrosion-resistant materials?

Mr. MOURE-ERASO. It is correct that in our investigation of Chevron we found out that if inherently safer technologies will have applied in the choosing of the adequate materials for piping, the corrosion probably would not have occurred and we would not have the incident that happened in the Chevron refinery.

Senator MARKEY. OK, thank you. Isn't it true that the explosion at the fertilizer facility in West, Texas, that killed more than a dozen people and destroyed a large portion of the town could have been prevented or minimized if it had stored its ammonium nitrate more safely and kept less of it onsite?

Mr. MOURE-ERASO. That is very true, Senator. The minimizing of storage of dangerous substances is an inherently safer strategy to avoid accidents to happen.

Senator MARKEY. Isn't it true that the chemical storage tank in West Virginia that leaked into the Elk River might not have contaminated the drinking water of 300,000 people if the tank had been of a safer design or if the tank had not been placed right next to the drinking water source in the first place?

Mr. MOURE-ERASO. Yes, Senator. The issue of siting of this facility is an inherently safer strategy, and also the materials that are used that will avoid corrosion that seems to be the mechanism that produced the leak in the tank.

Senator MARKEY. More than 500 drinking and wastewater facilities have replaced their toxic chlorine gas with safer alternatives. Isn't it true that some chemical substitutions like this can be done quickly and inexpensively?

Mr. MOURE-ERASO. Yes, Senator, that is very true. As a matter of fact, it has been happening and it is happening almost every day in the United States, to look at these types of substitutions to avoid risky situations.

Senator MARKEY. In 2009, during consideration of a chemical security bill I co-authored in the House, the Obama administration went through an interagency process to establish policy principles related to the use of inherently safer technology. The Administration policy that was presented in congressional testimony, which I would like to submit for the record, said that all high risk chemical facilities should have to assess whether inherently safer chemicals or processes could be utilized in their operations, and that assessment had to be submitted to the Federal Government. Do you think requiring companies to assess whether there exists opportunities to reduce the consequences of a potential attack or accident by using safer processes or chemicals makes sense?

Mr. MOURE-ERASO. Senator, the truth of the matter is that there are a number of companies that are already practicing inherently safer technologies. What we are trying to tell people is that this should be expanded, that all the chemical industry be covered by these approaches.

Senator MARKEY. Excellent. Thank you.

Mr. Stanislaus, how about you? The EPA testified in support of a requirement to assess the potential to use inherently safer technology in 2009. Is that still EPA's position?

Mr. STANISLAUS. Well, clearly the President, in the Executive Order issued in August, called on not only EPA, but all the Federal agencies to look at the issue of safer alternatives and IST, and we are certainly examining that and providing a recommendation to the President regarding that.

Senator MARKEY. So why is your answer not yes right now, Mr. Stanislaus?

Mr. STANISLAUS. Well, clearly we agree that IST, as part of a broader process safety program, will in fact reduce risk, and it is part of, as the chairman noted, part of the standard practice and part of the code of industries. We are currently evaluating how to evaluate an IST. We have presented to the stakeholders a variety of options to implement safer alternatives and ISTs, and we are going to evaluate, then provide a recommendation to the President.

Senator MARKEY. OK. Well, you know what I would like, and I think the chairwoman would like this as well, which is I would like you to be providing the committee with the documents that you are using if you are going to be changing your position in terms of ensuring that yes is the answer to that question, because I think our committee is going to be very interested in making sure that that ultimately becomes the policy.

Thank you, Madam.

Senator BOXER. Let me apologize for using this fast gavel. Here is where we are. I promised Senator Udall, who has not spoken yet, to give him 5 minutes, and then, Senator Carper, we are going to go to the next panel, because we have to stop. We have a series of votes at 11:10, and then we have eight votes in the afternoon. People flew here for the second panel. So if it is OK with the committee, we will hear from Senator Udall. He can use his time as he wishes. We will then move to the next panel. I will give up my chance to question and I will start with you, Senator. All right?

**OPENING STATEMENT OF HON. TOM UDALL,
U.S. SENATOR FROM THE STATE OF NEW MEXICO**

Senator UDALL. Thank you, Madam Chair, and I will try to not use the whole time so that we can move forward.

Let me, first of all, thank you for holding the hearing today on the President's Executive Order on improving chemical safety and security. This committee, I think, has shown real leadership in the wake of the West, Texas, fertilizer explosion almost 1 year ago and the more recent chemical spill into the Elk River in West Virginia, and I want to commend the chairman for making this a priority of this committee and elevating the issue in these hearings.

Chemical facilities need to ensure the highest level of protection for their employees and the communities nearby. The law needs to ensure that we hold the industry to these standards, and I have a number of constituents in Albuquerque, New Mexico, and other parts of New Mexico who are concerned for their safety and the safety of those who live around these facilities. These are often people of color and people of lower income levels.

In an earlier hearing we had on this issue, we had a witness from an innovative New Mexico company called Miox. They develop water filtration technologies that do not require toxic chemicals, and they can operate at any scale, offering products for individuals, facilities, and utilities. They are pretty successful in showing that their products are competitive.

The Environmental Protection Agency is currently undergoing a process to implement the Executive Order, and I am encouraged that they have included inherently safer technologies and safer alternatives and best practices among the policy options they are considering. This is really the direction we need to move in.

I want to also thank the chair for her leadership on the bill as far as Senator Manchin, working with that bill, and announce my co-sponsorship today. We need to move this legislation. I would encourage all my Republican colleagues on this committee to help us do so.

I would insert the rest of my testimony in the record.

I would like to ask the Chemical Safety Board, your testimony cites a number of examples where companies could have used available, feasible safer technologies to prevent disastrous accidents, but chose not to do so. My main question is why. From your investigation, can you identify why these companies choose not to implement these technologies? Is it a cost factor? Is it a general industry inertia? Are there other disincentives? It is just extremely frustrating to hear that so many of these disasters could have been prevented, and also deeply concerning to think about how many potential disasters we are on the cusp of that may be happening across the country in the future.

So could you give me a quick answer to that? And I want you to just stay within the time here so that we can move on to the next panel.

Mr. MOURE-ERASO. Sure. The best way to deliver this is look at the example of Chevron, for example. Their own engineering groups have told the management, the line management of the plant that there was a necessity to replace the pipes that were being corroded with different material pipes, and the line manage-

ment in the plant chose to delay this for a number of years and said I think we can wait, I think we can take the risk for a number of years before some accident happens and not replace the pipes.

So the issue that I see is an issue of safety management in the plant, of what is the weight that a safety recommendation, an engineering recommendation have into a plant and how these people are listened to when recommendations on risks are made or increasing risks are made; and that is kind of a problem that I see or why the choices are made, you basically are taking the risk and accepting the risk and hoping for the best, and sometimes the best just doesn't happen.

Senator UDALL. Well, that has been the case too many times, as we have seen.

I would yield back.

[The referenced statement was not received at time of print.]

Senator BOXER. Senator, thank you so much and thank you for your sponsorship of the Manchin bill. Working with Senator Vitter, we both decided we are going to change the markup until April 2nd so we have more time to work together, because we would love a bipartisan bill. We are not there yet, we are working on it, and I know you will help me get there, so I appreciate it.

OK, thank you very much to this panel.

We will quickly move to Dr. Michael Wilson, Ph.D., Chief Scientist, Office of the Director, California Department of Industrial Relations; James Frederick, Assistant Director for Health, Safety & Environment, Steelworkers International Union; Evan Hansen, President, Downstream Strategies; Billy Pirkle, Director, Environment, Health and Safety, Crop Production Services; Scott Berger, Executive Director, Center for Chemical Process Safety, American Institute of Chemical Engineers.

Gentlemen, thank you very, very much. I know that you will be staying within the 5 minutes. That will be good because then a few of us can get to ask questions, and, as I say, I will defer to my colleagues on this. So please let's start with Dr. Michael Wilson from California.

I am very happy to see you, sir. Please go ahead.

STATEMENT OF MICHAEL P. WILSON, Ph.D., MPH, CHIEF SCIENTIST, OFFICE OF THE DIRECTOR, CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS

Mr. WILSON. Thank you, Chairman Boxer, Ranking Member Vitter, distinguished members of the committee. Thank you for the opportunity to appear before you today. My name is Michael Wilson. I am the Chief Scientist in the California Department of Industrial Relations within the State's Labor and Workforce Development Agency. Our Department is charged with protecting the health and safety of California's 18 million workers. We are a core member of the Governor's Interagency Refinery Task Force, whose views I represent today.

As you know, on August 6, 2012, the Bay Area's Chevron refinery, the Richmond refinery, experienced a catastrophic failure of a corroded pipe. The pipe emitted an explosive vapor cloud that rapidly expanded through the unit to about the size of a football field. It engulfed 19 workers, who avoided injury or death by escaping

into other areas of the plant about 90 seconds before the cloud ignited. One Chevron firefighter escaped through the ensuing fire wearing protective clothing. The resulting smoke plume spread well beyond the refinery confines and ultimately caused some 15,000 people in nearby communities to seek medical attention for symptoms related to possible exposure to the combustion products.

Immediately following the incident, California Governor Jerry Brown established an Interagency Working Group on Refinery Safety made up of 13 State agencies and departments, and charged the group with figuring out what went wrong in Richmond and what should be done to prevent an incident such as this from happening again. The Working Group spent the next 18 months gathering input from the public and from technical experts in industry, labor, the U.S. Chemical Safety Board, emergency responders, and regulatory agencies.

Last month, the Working Group released the final report of its findings and recommendations, entitled *Improving Public and Worker Safety at Oil Refineries*. The report addresses both incident prevention and emergency response. Nine prevention recommendations include: improving coordination of regulatory activities; improving the flow of relevant information from refineries to agencies and the public; improve overall safety and security by requiring the adoption of inherently safer systems wherever feasible; improve investigations by requiring a root cause analysis; improve methods for detecting problems early, such as pipe corrosion, by requiring facility-wide hazard reviews; improve the safety culture by requiring facility-wide safety culture assessments with meaningful worker involvement; improve the integration of human factors; strengthen regulatory enforcement capacity; and improve community access to air quality monitoring data around refineries.

Relevant to today's hearing, the report is noteworthy because, like Executive Order 13650, it expands the focus of chemical safety from requiring industry to install protections around hazards to requiring industry to continuously evaluate and reduce those hazards wherever feasible. The report concludes that, in complex industrial operations, prevention is best achieved through the application of a hierarchy of controls in which inherently safer design is the primary objective. The report grounds this recommendation in the industry's own guidance documents, as published by the Center for Chemical Process Safety within the American Institute of Chemical Engineers.

Of course, like any industrial process, inherently safer design is not a perfect science. If improperly applied, it can shift risks along a production or process chain; it can sometimes be difficult and expensive to implement in older facilities such as California's refineries.

Despite these challenges, however, inherently safer design is increasingly recognized by industry leaders as the most effective and enduring defense against potential accidents, natural disasters, or acts of sabotage. Many industry leaders have adopted this approach. Perhaps most notably, for example, in their successful efforts to replace pressurized tanks of highly toxic and mobile chlorine gas with sodium hypochlorite, otherwise known as bleach.

The Governor's report concludes that improving refinery safety is a goal strongly shared by government, industry, workers, and communities. It calls on government agencies and industry to work together to develop and implement a culture that fosters inherent safety, including stronger accident prevention and hazard reduction measures.

We are now moving forward rapidly in our regulatory process to implement the report's recommendations. We are heartened to see attention and action on chemical safety and security at the Federal level. We strongly encourage Federal OSHA, the USEPA, and the Department of Homeland Security to continue their collaboration and, wherever possible, incorporate strategies to prevent risks through the application of inherently safer design within the hierarchy of controls.

The State of California offers our support to your efforts in moving these important initiatives forward.

[The prepared statement of Mr. Wilson follows:]

STATE OF CALIFORNIA
 DEPARTMENT OF INDUSTRIAL RELATIONS
 Christine Baker, Director
 Office of the Director
 1515 Clay Street, 17th Floor
 Oakland, CA 94612
 Tel: (510) 622-3959 Fax: (510) 622-3265

EDMUND G. BROWN JR., Governor



TESTIMONY

MICHAEL P. WILSON, Ph.D, MPH
 CHIEF SCIENTIST
 CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS
 BEFORE THE UNITED STATES SENATE
 COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
 DIRKSEN SENATE OFFICE BUILDING, ROOM 406, 10:00 AM
 MARCH 6, 2014

Chairman Boxer, Ranking Member Vitter, distinguished members of the Committee, thank you for the opportunity to appear before you today. My name is Dr. Michael Wilson and I serve as Chief Scientist in the California Department of Industrial Relations, which resides within the state's Labor and Workforce Development Agency. Our Department is charged with protecting the health and safety of California's 18 million workers. We are a core member of the Governor's Interagency Refinery Task Force, whose views I represent today.

California has taken action to protect workers, the public and our industrial infrastructure from process safety incidents.

Over 10 years ago, California formed a special unit within our Cal/OSHA program, called the Process Safety Management (PSM) unit, after the Bay Area's Tosco refinery experienced a naphtha explosion on a crude oil distillation tower. The explosion engulfed four Tosco workers, who had to be painstakingly extricated off the 13-story tower. All of these young men subsequently died of their injuries. Two years before this incident, a worker at the same plant was killed in an explosion in the hydrocracker unit.

Throughout the 1990s, the Tosco plant led the U.S. refining industry in the number of environmental and worker safety violations. It had a history of poor maintenance and understaffing and had developed a reputation for being a hazardous place to work.

To this day, and despite similar kinds of incidents occurring fairly regularly across the country, California's dedicated PSM unit is the only one of its kind in the nation. I've watched our Cal/OSHA PSM safety engineers do their work in the oil refineries, and I wish you could have the opportunity to share this experience. Cal/OSHA's professionals make a real difference in the lives of these workers, who our society depends on for the fuels that power our economy.

California has made a basic commitment to protecting the people who work in the refineries and other hazardous industries by funding a specialized PSM unit and enforcing PSM regulations and standards.

California has a companion program that is focused on protecting the communities near refineries and other hazardous industries. The California Accidental Release Prevention Program (CalARP) is managed by the Governor's Office of Emergency Services, overseen by the California Environmental Protection Agency (Cal/EPA) and implemented by the local Unified Programs at the county and city level. The CalARP program operates in parallel with the federal Chemical Accident Prevention Provisions, with certain additional state-specific requirements.

The regulatory requirements of the Cal/OSHA PSM program and the CalARP program are similar because the same industrial processes that can injure or kill workers can also affect public health and the environment. Both programs include requirements related to process safety information, process hazard analyses, mechanical integrity, and management of change. The difference is in focus: the PSM program focuses on potential on-site chemical releases and processes that affect the health and safety of workers, while the CalARP Risk Management Program focuses on chemical releases with the potential for off-site impacts that might require public notification and emergency response.

California is committed to strengthening both programs to protect workers and the public from industrial accidents and to motivate companies to invest in good engineering practices that protect industry itself and—more broadly—our state's industrial infrastructure and economy.

Industrial safety and security regulations could be expanded to focus on both the management and prevention of hazards.

In reviewing our programs through the lens of refinery safety, it has become clear that California's PSM and RMP regulations could be improved by addressing a basic design flaw: the regulations currently require facilities to place *protections* around industrial hazards. They do not, however, require facilities to develop strategies to continuously *reduce* those hazards, wherever feasible, such as through the use of less hazardous chemicals, processes, or materials.

The regulations currently call on industry to apply layers of protection around a hazard—such as by using alarm systems, special procedures, or protective equipment for workers—but they do not require industry to engage in a deliberate process of evaluating whether the hazard itself can be mitigated.

The same can be said for the Federal OSHA PSM Standard, EPA's Risk Management Plans, and the Department of Homeland Security's Chemical Facility Anti-Terrorism Standards (CFATS), all

of which are the subject of the Obama Administration's Executive Order 13650. These agencies, and the statutes from which they draw their authority, share a common regulatory approach to risk: they accept the risks as given, and they seek to manage those risks through the development and implementation of facility safety plans.

An alternative approach would give the agencies the authority to seek solutions that do more to avoid or reduce industrial safety risks through strategies that motivate attention to, and investments in, inherently safer design. Executive Order 13650 specifically calls on the agencies to consider this approach. This is the path California is now actively pursuing.

California Governor Jerry Brown established an Interagency Working Group on Refinery Safety in 2012.

On August 6, 2012 the San Francisco Bay Area's Chevron Richmond refinery experienced a catastrophic failure of a corroded pipe. The pipe emitted an explosive vapor cloud that rapidly expanded through the unit to about the size of a football field. It engulfed 19 workers, who narrowly avoided injury or death by escaping into other areas of the plant about 90 seconds before the cloud ignited. One Chevron firefighter escaped through the ensuing fire wearing protective clothing.

The resulting smoke plume spread well beyond the refinery confines and ultimately caused some 15,000 people in nearby communities to seek medical attention for symptoms related to possible exposure to the combustion products.

Immediately following the incident, Governor Jerry Brown established an Interagency Working Group on Refinery Safety, made up of 13 state agencies and departments, and charged the Group with figuring out what went wrong in Richmond and what should be done to prevent an incident such as this from happening again. The Working Group spent the next 18 months gathering input from the public and from technical experts in industry, labor, the U.S. Chemical Safety Board, emergency responders, and regulatory agencies.

The Governor's Report addresses both refinery incident prevention and response.

Last month, the Governor's Interagency Working Group on Refinery Safety released a final Report of its findings and recommendations, entitled *Improving Public and Worker Safety at Oil Refineries*.⁽¹⁾ The Report addresses both incident *prevention* and *emergency response*.

¹ Governor Edmund G. Brown, Jr. *Improving Public and Worker Safety at Oil Refineries: Report of the Interagency Working Group on Refinery Safety* (February 2014) Available: <http://www.dir.ca.gov/dosh/interagency-refinery-task-force.html> (Accessed March 2, 2014).

The Report's findings include the following:

- **Oversight and Coordination**

Multiple regulatory agencies have responsibility for oversight of refineries, sometimes with overlapping jurisdiction. Agency efforts to ensure information sharing, joint prioritization of enforcement, and other coordinated actions can and should be improved.

- **Emergency Response and Preparedness**

Regulations need to define more precisely a refinery's requirements for reporting losses of containment or other releases of hazardous materials to local and state agencies. Response protocols and communication between public agencies and refineries need to be clarified and strengthened. Hazardous Materials Area Plans developed at the local level are written as general response guidelines and do not address the unique hazards of refinery processes. The current air monitoring network does not provide real-time tracking of toxic air contaminants or pollutants in most geographic regions.

- **Safety and Prevention of Hazardous Events**

Refineries are subject to the CalARP Risk Management Program (RMP) and the Cal/OSHA Process Safety Management (PSM) regulation, as well as an Industrial Safety Ordinance (ISO) in Contra Costa County, where four refineries are located. There are gaps in these regulatory structures, including limitations on the ability of agencies to address key aspects of process safety, and regulatory ambiguities that can make enforcement difficult.

Regulatory agencies face several challenges related to their enforcement capacity, including difficulties in hiring, retaining, and training inspectors; a lack of mechanisms for sharing information and coordinating efforts with sister agencies; deficiencies in information provided by the refineries; and penalties that are insufficient to create meaningful deterrence.

- **Community Education and Alerts**

There are shortcomings in community emergency alert systems, public education, and timely dissemination of public information, including challenges in communicating with

communities regarding health risks and actions the public should take during an incident. Public involvement has not been well integrated into air monitoring improvement discussions.

The Report's recommendations include the following:

- **Oversight and Coordination**

An Interagency Refinery Task Force has been created within CalEPA to coordinate agency activities and carry out the recommendations in this Report. The Task Force will be staffed by a new Refinery Information Officer at CalEPA, who will serve as a central point of contact on refinery-related matters for agencies, industry, and the public. New funding for PSM inspector positions will increase Cal/OSHA's capacity to conduct inspections in the refineries and other large facilities.

- **Emergency Response and Preparedness**

The Governor's Office of Emergency Services (Cal OES), formerly the California Emergency Management Agency, will coordinate improvements in emergency response practices by clarifying reporting thresholds during a hazardous materials release (or threatened release) and will work with local Certified Unified Program Agencies (CUPAs) to create refinery-specific elements in the Hazardous Materials Area Plans.

The Working Group has identified at least four elements that must be included in the Area Plans: (1) alignment of radio communications between public fire agencies and refinery fire brigades; (2) clearer criteria for the establishment of Unified Incident Command and a Joint Operation Center during incidents; (3) plans and protocols for communicating health and safety information to hospitals, schools, transit agencies, and other entities during an incident; and (4) requirements for joint drills and exercises between public response agencies and refineries.

The California Air Resources Board (ARB), in collaboration with the California Air Pollution Control Officers Association (CAPCOA), is working on a parallel effort focused on toxic air contaminant monitoring, which will improve technical knowledge and sharing of real-time air monitoring data.

The Report notes that operational effectiveness is critical in the area of emergency response, but that "the central goal of the state's effort on refinery safety is to prevent

the conditions that give rise to an emergency by increasing inherent safety and continuous improvement in health, safety and environmental performance.⁶²

- **Safety and Prevention of Hazardous Events**

Existing regulations and practices must be strengthened to ensure that relevant safety and health information is provided by refineries to agencies, workers, and the public. Agency enforcement capabilities need to be enhanced. Six prevention strategies should be implemented as soon as possible, directing refineries to: (1) implement inherently safer systems to the greatest extent feasible; (2) perform periodic safety culture assessments; (3) incorporate damage mechanism hazard reviews into Process Hazard Analyses; (4) complete root cause analyses after significant accidents or releases; (5) account for human factors and organizational changes; and (6) use structured methods such as layer of protection analysis to ensure adequate safeguards in Process Hazard Analysis.

The Working Group identified three additional areas that will require further study: reporting of leading and lagging indicators; increasing worker and community involvement; and exploring the safety case approach.

- **Community Education and Alerts**

Agencies will evaluate improvements to public input during the emergency planning process, create enhanced public information and outreach protocols for use during a chemical release or fire, and improve alerts and public access to information during incidents. Agencies are also working to improve public access to air monitoring data and other health and safety information.

The Report highlights the importance of prevention through a hierarchy of controls, in which inherently safer design is the primary objective.

Relevant to today's hearing, the Report is noteworthy because—like Executive Order 13650—it expands the focus of chemical safety from requiring industry to install protections *around* hazards to requiring industry to continuously evaluate and *reduce* those hazards, wherever feasible. It concludes that in complex industrial systems, prevention is best achieved through

² Brown, *op cit.* p. 25.

the application of a hierarchy of controls, in which inherently safer design is the primary objective.³

The intent of inherently safer system requirements is to ensure that refineries incorporate the **greatest degree of hazard reduction, to the maximum extent feasible, in order to avoid accidents or releases.** The focus is on **adopting measures that are permanent and inseparable from the production process, as opposed to adding safety equipment or installing external layers of protection.** For example, had such a requirement been in place at its Richmond refinery, Chevron would have been required to demonstrate why the continued use of low-silicon metal (susceptible to corrosion) was a viable process safety solution, given other inherently safer options.

In general, inherently safer design reduces risks through the use of less materials or processes; it represents a “passive” form of risk reduction that reduces both the likelihood and the consequences of an industrial hazard—without the need to take action or activate a protective system or device. Under the recommendations of the Report, refineries would be required to use a Hierarchy of Controls approach to select inherently safer options (see Figure 1). This would include requirements to report the methodologies, findings, rationale, and conclusions used to select particular processes and materials during Process Hazard Analyses and during rebuilds, repairs, corrective actions, and incident investigations.

In addition to the focus on inherently safer design within a Hierarchy of Controls, the Governor’s Report described a number of other areas where improvements are needed, including the following:

- Require Refineries to Perform Periodic Safety Culture Assessments

An organization’s safety culture is reflected in the way risk is perceived by workers and managers, as well as in the way that priorities are adjusted in day-to-day decision-making. Safety culture assessments that involve frontline workers in meaningful ways can improve safety and reduce incidents throughout a facility, particularly in facilities that involve complex and hazardous industrial processes.

³ The concept of inherently safer design can be understood through the example of chlorine, which is used in many industries. Chlorine exists as a gas, and it expands over 400 times if released from a pressurized tank. Its vapors are heavier than air, so they stay at ground level and seek out low points. According to the Centers for Disease Control and Prevention’s Agency for Toxic Substances and Disease Control, when inhaled at 30 parts per million in air (ppm), chlorine gas produces chest pain and shortness of breath; at 50 ppm it produces pulmonary edema; and at about 400 ppm, it is fatal within 30 minutes. The CDC suggests that children might be more susceptible than adults due to their smaller airways. Best industrial practice would replace chlorine gas with safer alternatives, such as sodium hypochlorite; that is, bleach.

Safety culture assessments also help regulators evaluate whether the refinery's focus on safety is sustained over time, and they provide facility operators with an opportunity to identify and mitigate hazardous operations and practices. Refineries should be required to use an independent evaluator in conducting safety culture assessments at least every three years. Findings should be submitted to agencies by both management and labor, separately or together.

Figure 1: Application of a Hierarchy of Controls to Process Safety

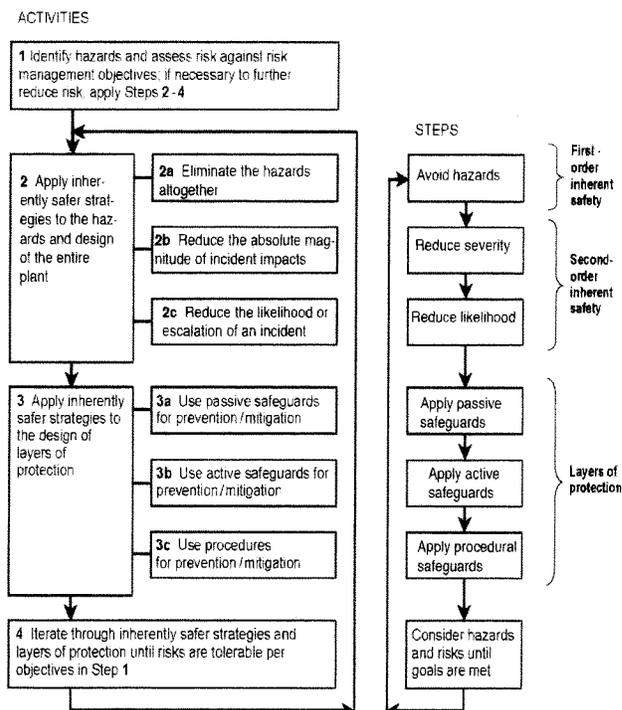


Figure 1 Source: Inherently Safer Chemical Processes A Life Cycle Approach, American Institute of Chemical Engineers, Center for Chemical Process Safety, 2009

- Require Refineries to Account for Human Factors

Human limitations and needs must be considered in managing and reducing risks. The outcome of a certain activity or task can be strongly affected by the design of

operational procedures, staffing, the training of workers, existing safeguards, as so forth. Two approaches can help integrate human factors into industrial safety systems: (1) Management of Change (MOC) procedures should include organizational, procedural, and staffing changes made in the facility, and (2) human factors analyses should include training, experience levels, and other issues—such as fatigue—among operators. Federal and state regulations require human factors to be considered during Process Hazard Analysis.

- **Require Refineries to Conduct Damage Mechanism Hazard Reviews**

Damage Mechanism Hazard Reviews analyze risks presented by all potential process failure mechanisms, including corrosion, stress cracking, damage from high temperatures, and mechanical or metallurgical-assisted degradation. These Reviews should be included as part of the Mechanical Integrity element of a Process Hazard Analysis. The results of the reviews, as well as other Mechanical Integrity reviews, should be provided to agencies and workers.

- **Require Root Cause Analyses After Significant Incidents**

When incidents occur, a Root Cause Analysis can often reveal the underlying causes that led up to the incident. This information is essential to improve learning in a facility and prevent similar incidents in the future. Incident investigation procedures under current state and federal law require facilities to document findings and recommendations, and identify contributing causes. A thorough Root Cause Analysis, however, is recognized by industry safety experts as necessary to address underlying problems and prevent recurrences.

California is moving forward in implementing the Report's recommendations.

The role of inherently safer design, as a preferred solution in the Hierarchy of Controls, appears throughout the Report. This orientation is informed by the industry's own Center for Chemical Process Safety, within the American Institute of Chemical Engineers.⁽⁴⁾

Like any industrial safety process, of course, inherently safer design is not a perfect science. If improperly applied, it can shift risks along a production or process chain. It can sometimes be difficult and expensive to implement in older facilities, such as California's refineries.

⁴ Amyotte, PR, et al. Incorporation of Inherent Safety Principles in Process Safety Management. *Proceedings of the 21st Annual International Conference of the Center for Chemical Process Safety* (p. 178). See page 29 in Brown, *op cit* at 1.

Despite these challenges, inherently safer design is increasingly recognized by industry leaders as the most effective and enduring defense against potential accidents, natural disasters, or acts of sabotage. Many industry leaders have adopted this approach, perhaps most notably, for example, in their efforts to replace pressurized tanks of highly toxic and mobile chlorine gas with sodium hypochlorite, otherwise known as bleach. This is an example of inherently safer design through chemical substitution.

The Report concludes that "improving refinery safety is a goal strongly shared by government, industry, workers, and communities," and that "refinery safety in California can and must be improved." It calls on government agencies and industry to "work together to develop and implement a culture that fosters inherent safety, including stronger accident prevention and hazard reduction measures."⁵

In order to facilitate implementation of the Report's findings, the Working Group called for the formation of an Interagency Refinery Task Force. The Task Force is now coordinating the state's agencies and departments in moving forward with both regulatory and non-regulatory approaches.

We are heartened to see action on the matter of industrial safety and security at the Federal level, and we applaud the attention the Obama Administration has given to inherently safer design as a well-recognized and effective path forward. We strongly encourage Federal OSHA, the U.S. EPA, and the Department of Homeland Security to continue their collaboration and—wherever possible—to incorporate strategies that will prevent or minimize industrial hazards through the adoption of inherently safer design strategies, which we see as the primary objective in the Hierarchy of Controls.

The State of California offers our support to your efforts in moving this important initiative forward.

Thank you very much for your attention this morning. I would be happy to answer any questions.

* * * * *

⁵ Brown, *op cit.* p. 34.

Senator BOXER. You were very close to being perfect, but of course my State is absolutely perfect.

Mr. WILSON. Thank you.

Senator BOXER. And thank you very much for that. I am proud of our State and what we are doing.

Mr. James Frederick, Assistant Director for Health, Safety & Environment, United Steelworkers International Union. Welcome.

STATEMENT OF JAMES S. FREDERICK, ASSISTANT DIRECTOR OF HEALTH, SAFETY & ENVIRONMENT, UNITED STEELWORKERS INTERNATIONAL UNION

Mr. FREDERICK. Thank you, Chairman Boxer, Ranking Member Vitter, and members of the committee. Thank you for the opportunity to testify today. My name is Jim Frederick, and I am here on behalf of the United Steelworkers International Union. We represent 850,000 workers in many sectors of the economy, including the majority of unionized workers in the chemical industry and workers in many workplaces using large quantities of industrial chemicals.

The massive explosion at West Fertilizer Company highlighted vulnerabilities in our communities. As devastating as the West explosion was, the potential disaster is present at other facilities across the country.

Our members are well aware of many of these hazards and potential for widespread damage to the communities where they work and live. USW members are on the front lines if a catastrophic event occurs in their workplace. It is for this reason that our Union strongly supports President Obama's Executive Order 13650 on improving chemical facility safety and security. This testimony addresses the four goals and the implementation of the Executive Order.

One, improve operational coordination with State and local partners. Federal agencies should share best practices about interacting with communities and local emergency responders. The EO's pilot project in New York and New Jersey provides a unique opportunity for agencies to implement lessons learned and innovative coordination. The pilot project is an opportunity for agencies to make a difference on the ground facility by facility.

Two, enhance Federal agency coordination and information sharing. Workers' experiences demonstrate the importance of Federal agency coordination and information sharing. The USW strongly supports cross-training and joint inspections by regulators to more efficiently and effectively address chemical hazards at facilities.

As EPA discussed in the last panel, DHS indicated that 3,000 facilities were identified as not complying with their responsibilities under CFATS after the DHS data base and EPA Risk Management data base were cross-referenced. The DHS has contacted those facilities, but much more work remains to be done to ensure that they comply with the law to minimize the risk of terror attack under those provisions.

Three, modernize policies, regulations, and standards. The EO Working Group is currently gathering public input on policy regulation and standards modernization. We strongly recommend that the Working Group consider recommendations made by the CSB,

California's Interagency Working Group on Refinery Safety, and the New Jersey DEP, who all have been leaders in preventing incidents at chemical facilities.

The USW strongly supports the Working Group using this opportunity to develop and promote the use of safer chemical processes. As a member of the Coalition to Prevent Chemical Disasters, we petitioned the EPA to exercise its authority under Section 112(r) of the Clean Air Act to prevent chemical facility disasters through the use of safer chemical processes. We have not yet received a formal response to this petition. Additionally, the USW issued a report, titled *A Risk Too Great*, about the oil refineries to switch from deadly hydrofluoric acid to the use of safer chemicals and processes.

The DHS, EPA, CSB have all highlighted the effectiveness of assessing and, where feasible, implementing safer alternatives at high risk facilities.

Despite the effectiveness of safer chemical processes, they may take time to implement, so regulation and policy updates should take place in the meantime. For example, the agencies should look into harmonizing the list of chemicals that are covered under each agency's policies. For example, the EPA's Risk Management Program list of regulated toxic substances contains 77 toxic chemicals and 63 flammable substances; and OSHA's Process Safety Management lists 137 chemicals as highly hazardous, toxic, or reactive. Currently, too many dangerous chemicals are not listed and, therefore, not reportable under the Risk Management Program, including many explosives.

The USW applauds OSHA's efforts to begin the process of updating the Process Safety Management standard, and we urge EPA to engage in similar information gathering process and to update the RMP standard. The USW is also pleased to see the President's proposed budget narrows the small business rider to allow for programmed inspections at PSM- and RMP-covered processes. This is a step forward on implementing the Executive Order.

Workers who operate and maintain chemical facilities should be seen as assets to chemical facility safety. Workers should be involved in a meaningful way in all aspects of planning for, preventing, and responding to an accidental release or incident. When Federal agencies inspect facilities, representatives of those workers should be included in inspection to correction of any issues found. Finally, workers need to be protected with strong whistleblower language should they report problems or inadequacies that may contribute to the risk of chemical disaster.

The Working Group has cited the Government shutdown.

Senator BOXER. Unfortunately, I have to stop you at this point and move, because we have these votes starting in 5 minutes.

[The prepared statement of Mr. Frederick follows.]

**Testimony of
James Frederick
United Steelworkers
before the
US Senate Committee on Environment and Public Works
on
Preventing Potential Chemical Threats and Improving Safety: Oversight of the President's
Executive Order on Improving Chemical Facility Safety and Security
March 6, 2014
Washington, DC**

Chairman Boxer, Ranking Member Vitter and members of the Committee, thank you for the opportunity to testify today. My name is Jim Frederick. I am here on behalf of the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union – USW for short. We represent 850,000 workers in the sectors I just mentioned and many others, including the majority of unionized workers in the chemical industry and hundreds of thousands of men and women whose workplaces use and store large quantities of industrial chemicals.

A massive explosion nearly a year ago at the West Fertilizer Company's storage and distribution facility in West, TX killed fifteen people and injured hundreds more. The blast also destroyed a nursing home, an apartment complex, schools and private homes. This incident has brought acute national attention to the vulnerabilities in our communities. As devastating as the West explosion was, the potential for much worse is present at other facilities across the country.

Our members are well aware of the hazards and the potential for widespread damage to critical infrastructure and the communities where they work and live. USW members are the highly-skilled and highly-trained workers who operate and maintain chemical facilities. They would be hurt first and worst when employers and regulations do not do enough to prevent catastrophic releases and explosions. It is for this reason that our union strongly supports President Obama's Executive Order 13650 on Improving Chemical Facility Safety and Security.¹

The Executive Order (EO) set up a Working Group to improve operational coordination with state and local partners; enhance federal agency coordination and information sharing; modernize policies, regulations and standards; and work with stakeholders to identify best practices. The Working Group is co-chaired by the Department of Homeland Security (DHS), the Environmental Protection Agency (EPA), and the Department of Labor (DOL), more specifically the Occupational Safety & Health Administration (OSHA). This testimony today will address the four goals and the implementation of the EO:

1. Improve operational coordination with state and local partners;
2. Enhance federal agency coordination and information sharing;
3. Modernize policies, regulations and standards;
4. Work with stakeholders to identify best practices; and
5. Implementation of the executive order.

¹ <http://www.whitehouse.gov/the-press-office/2013/08/01/executive-order-improving-chemical-facility-safety-and-security>

1. Improve operational coordination with state and local partners

Federal agencies should share best practices about interacting with communities and local emergency responders. The EO's pilot project in New York and New Jersey provides a unique opportunity for the agencies to implement lessons learned and new ways of coordinating with each other and with state and local partners. For example, agencies and emergency responders should implement best practices for communicating during an incident to avoid reported complications during previous incidents in which responding agencies were operating on different radio frequencies. The pilot project is an opportunity for EPA and the other agencies involved in the Working Group really make a difference on-the-ground on a facility-by-facility basis. USW has encouraged EPA, who is the lead agency for the pilot project, to provide periodic updates on the pilot project to the public and to fully incorporate the successes of the pilot project into the full spectrum of the Working Group's responsibilities.

The agencies can also look into how industry should interact with the communities and local emergency responders around their facilities. For example, companies are required to interact with communities and local emergency response departments through the EPA's Risk Management Plan (RMP). This is not the same requirement under OSHA's Process Safety Management Standard (PSM). All facilities should be communicating with outside emergency responders about the layout of the facility, the hazardous materials on site and their location as well as the health effects from the materials. They should also be aware of all potential scenarios, as the typical chemical facility incident is rarely a single scenario event.

2. Enhance federal agency coordination and information sharing

Our members' experiences have demonstrated the importance of federal agency coordination and information sharing. At one facility where the local union identified health and safety hazards, three agencies were approached and each one passed responsibility to the next. It took much time and effort for an adequate response, which left the community at risk far longer than was necessary if the agencies had collaborated. USW has encouraged the agencies involved in the Working Group to evaluate and improve the way they communicate both at the federal level and the local level. We strongly support cross-training and joint inspections to more efficiently and effectively address chemical hazards at facilities.

Already this Executive Order has resulted in information sharing that will protect communities and workers. At a House Homeland Security Subcommittee hearing last week, DHS indicated that 3000 facilities were identified as not complying with their responsibilities under CFATS after the DHS Chemical Facility Anti-Terrorism (CFATS) database and EPA RMP database were cross-referenced.² DHS has contacted those facilities, but much work remains to be done to ensure that they comply with the law to minimize the risk of a terror attack under CFATS.

3. Modernize policies, regulations and standards

² <http://homeland.house.gov/hearing/subcommittee-hearing-chemical-facility-anti-terrorism-standards-authorization-and>

The EO Working Group has a document out for public comment until the end of the month to gather public input on policy, regulation, and standards modernization. This is an important step in gathering information to preventing chemical disasters. In addition to gathering public input to modernize policies, regulations and standards, the EO Working Group should look to other agencies in federal and state government. We strongly recommend that the Working Group consider recommendations made by the US Chemical Safety Board (CSB), California Governor Brown's Interagency Working Group on Refinery Safety, and the New Jersey Department of Environmental Protection, who have all been leaders in preventing, not just responding to incidents at chemical facilities.

USW strongly supports the Working Group using this opportunity to develop and promote the use of safer chemical processes. As a member of the Coalition to Prevent Chemical Disasters³, we have been strong advocates for a shift towards inherently safer technologies in order to protect workers and communities. In 2012 our coalition petitioned the EPA to exercise its authority under Section 112(r) of the Clean Air Act to prevent chemical facility disasters through the use of safer chemical processes.⁴ We have not yet received a formal response to the petition. And the USW recently issued a report titled *A Risk Too Great* about the ability of oil refineries to switch away from using deadly hydrofluoric acid and towards safer chemicals and processes.⁵

DHS,⁶ EPA⁷ and the CSB⁸ have all highlighted the effectiveness of assessing and, where feasible, implementing safer alternatives at high risk facilities. Some companies have shifted to safer processes or reduced their inventory of hazardous chemicals so they are no longer listed as high risk. In fact, according to a report from DHS to the Coalition to Prevent Chemical Disasters, since the inception of the CFATS program nearly 1300 facilities have completely removed their Chemicals of Interest and approximately 600 no longer possess a Chemical of Interest at the threshold that requires submission of a Top-Screen to DHS. But many companies will never even look into innovating with safer chemical processes without a legal requirement to do so. We strongly support assessing and, where feasible, implementing safer chemical processes and urge the Working Group to address this issue.

Despite the effectiveness of safer chemical processes, they may take time to implement at all facilities; and we should update other regulations and policies in the meantime. For example, the agencies should look into harmonizing the lists of chemicals that are covered under each agency's policies. The EPA's Risk Management Program (RMP) list of Regulated Toxic Substances contains 77 toxic chemicals and 63 flammable substances. OSHA's Process Safety Management (PSM) Programs lists 137 chemicals considered Highly Hazardous, Toxic or Reactive. Currently, too many dangerous chemicals are not listed and therefore are not reportable under RMP. An example of one such chemical is 1,2-Butadiene. While its close cousin, 1,3-Butadiene, is reportable under EPCRA 313 (TRI) and by definition, under the Process Safety Management standard, it is not listed as an RMP chemical. Additionally, the Working Group

³ <http://preventchemicaldisasters.org/>

⁴ <https://www.documentcloud.org/documents/404584-petition-to-epa-to-prevent-chem-disasters-filed.html>

⁵ <http://assets.usw.org/resources/hse/pdf/A-Risk-Too-Great.pdf>

⁶ <http://www.dhs.gov/news/2011/03/30/written-testimony-nppd-house-committee-energy-and-commerce-hearing-titled-hr-908>

⁷ http://www.epa.gov/ocir/hearings/testimony/111_2009_2010/2010_0728_ccd.pdf

⁸ http://www.nytimes.com/2014/01/29/opinion/the-next-accident-awaits.html?smid=pl-share&_r=0

agencies should include explosive hazards on the lists of chemicals they cover. This simple and common-sense requirement would have helped prevent the devastation in West, TX last April.

USW applauds OSHA's efforts to begin the process of updating the PSM standard through a request for information put out late last year. The PSM standard is broken. It is a performance-based standard, so it tells an employer what they need to do but leaves how they do it up to each company. While this is necessary to a degree due to variations in facilities, we typically see employers getting by on past practices that were appropriate when they were implemented but that are now outdated. USW will be submitting recommendations on how to update the standard in response to OSHA's request for information. We urge EPA to engage in a similar information gathering process to update the RMP standard.

4. Work with stakeholders to identify best practices.

Workers who operate and maintain chemical facilities should be seen as assets to chemical facility safety; and workers should be involved in a meaningful way in all aspects of planning for, preventing, and responding to an accidental release or incident. When federal agencies inspect facilities, representatives of the workers should be included in all parts of the inspection. Both OSHA⁹ and EPA¹⁰ have policies that could be used and expanded for all agencies that are involved. Workers should be involved in communicating with local first responders about the hazards at the facilities and the actions that should be taken in the event of an emergency. And finally, workers need to be protected by strong whistleblower language should they report problems or inadequacies that may contribute to the risk of a chemical disaster.

5. Implementation of the Executive Order

The Executive Order included an ambitious timeline that included a status report to President Obama with an original deadline of May 6, 2014. The Working Group has cited the government shutdown last fall as the reason that deadlines have been extended by 30 days. The USW is disappointed that the work of the agencies has slowed, and we continue to urge the agencies to meet their deadlines.

Throughout the implementation of the Executive Order, USW has urged the Working Group to continue to hear and incorporate stakeholder and public input. We were pleased that the Working Group responded to stakeholder input early in the process and began scheduling listening sessions and webinars during evening hours to accommodate those who cannot attend during daytime hours. We hope that the Working Group will continue to support a transparent process that utilizes input from a wide variety of stakeholders as the agencies work to better protect workers and communities from catastrophic chemical incidents.

Thank you again for the opportunity to testify today.

⁹ https://www.osha.gov/Firm_osh_data/100006.html

¹⁰ <http://www.epa.gov/compliance/resources/policies/monitoring/caa/caa112r-rmpguide.pdf>

Questions from Senator Barbara Boxer**1. Mr. Frederick, can you describe your union's participation in the Executive Order Working Group's pilot project in New Jersey and New York? What kinds of best practices or innovative methods were developed in the pilot project and what lessons do you think will be learned from the pilot?**

Our union has only been engaged in the pilot project as an interested stakeholder wanting to provide input. We joined with other stakeholders in a meeting with the Region 2 workgroup in November. While there we shared and spoke to the attached document titled "Executive Order 13650 – Region 2 Pilot Project Stakeholder Meeting – November 19, 2013, Edison, NJ." Our recommendations were in five categories:

- Ensuring the right to know;
- Promote prevention through safer processes and chemicals;
- Enhance emergency response;
- Improve inspections of high risk facilities; and
- Promote public engagement in the EO pilot project.

It is our understanding that the pilot project was taking action in several areas including:

- First responder, best practices, and challenges;
- SERC/LEPPC, best practices, and challenges;
- Tier 2 form content, best practices, and challenges; and
- High risk facilities/chemicals and data information sharing.

We hope that the actions of the pilot project in these areas will be strongly incorporated into a centralized document that is shared as best practices for other parts of the country.

2. Mr. Frederick, can you explain the importance of meaningful worker involvement in chemical facility safety? What recommendations has your union made to the Executive Order Working group to enhance safety at chemical plants through worker involvement?

Meaningful worker involvement is critical to the safety of operations at a chemical facility and should be included as a component in all regulations and policies. Our members are among the highly-skill and highly-trained workers who operate and in many cases maintain these hazardous facilities. We are hurt first and worst when employers and regulations don't do enough to prevent catastrophic releases and explosions. Workers are the most knowledgeable about the facilities that they operate and maintain because they know every piece of equipment and every standard operating procedure. Generally, our recommendation to the working group is that workers are valuable assets and should be included in every aspect of

preventing disasters at facilities and preparing for emergency response for an accidental release. Specifically, we have recommended:

- A tripartite group – industry, labor and regulator – needs to work to overhaul the OSHA Process Safety Management (PSM) standard.
- The employee participation section of the OSHA PSM is clarified and strengthened. For workers and their representatives to play a meaningful role, companies must be required to do more than merely consult with them. From our experience, most companies are not following the definition of consult anyway; they are informing employees after the fact rather than bringing them in in the initial stages. Companies must be required to include full participation of the employees and their representatives in all aspects of process safety. PSM language needs to define this participation. It must move beyond post hoc comment and review processes that are more symbolic than real. Tri-partite language, used successfully elsewhere in countries with advanced economies can serve as successful models. These would require the company, regulator and employee representatives to jointly develop and approve program elements for meeting the standard requirements. This would make the process more robust and give greater credibility and a better end product.
- PSM should ensure that proprietary employees and their representatives have the right to review contractor plans to meet the requirements of the elements and that they are as competent as the proprietary employer. They should also have the right to review contractors' OSHA 300 logs and reports. This needs to be covered through a statutory process to prevent the proprietary employer from claiming they can't do this as it may reflect co-employer implications.
- Training needs to require more worker input from people performing the work, like operators and maintenance workers. A schedule should be developed jointly for training with operators and maintenance, as opposed to consulting on one, for not only frequency, but type and level of involvement in developing and delivering the training. Training shall include hands-on in the field as well as simulator training for console operators and task activities for maintenance personnel.
- The OSHA PSM standard's Management of Change section must include participation of persons actively involved in operating the process and training on the changes for employees involved. Currently many companies are only reading the 'inform' and missing the 'and' when it comes to training, claiming that informing persons involved is adequate.
- Employee involvement should be required in developing emergency plan, in the same way that it must be required in training and incident investigation. Operators from specific units and representatives for the overall plant shall work together to develop response and training requirements.

- An employee representative selected by employees should be a member of the Local Emergency Planning Committee (LEPC) along with a management representative.
- PSM-covered facilities' internal emergency response teams should meet with and coordinate with external emergency responders at regular intervals (annually). The key to the mitigation of any emergency is to intervene with well-trained and equipped responders as soon as possible.
- PSM must require that the company share reports related to compliance audits with the employees and their representatives. The company should be required to include employee comments into making changes to the compliance process where it does not meet the intent of the standard.
- Third party audit teams should include employee-selected employee representatives.
- The Department of Homeland security should adopt worker participation language.

3. Mr. Frederick, can you explain how mandating Inherently Safer Technology at chemical plants can create jobs while enhancing safety and reducing the risks of catastrophic events?

Inherently safer technology (IST) is the most effective way to prevent a catastrophic incident because it reduces the catastrophic risk. There are many examples of inherently safer technologies including reducing the quantity of material or energy in a process, substituting a hazardous material for a less hazardous one, using materials under less hazardous conditions, installing sensors and shutdowns, installing alarms, changing operating procedures and upgrading control systems.

In our union's experience, facilities with catastrophic releases eventually close and communities lose the jobs that were held there. Facilities that are run responsibly and that ensure environmental, worker and community safety continue to operate. IST can create jobs in many ways including operating jobs when adequate staffing is required to safely operate a facility and maintenance jobs when a facility responsibly and regularly carries out preventive maintenance.

Questions from Senator David Vitter

- 1. Mr. Frederick, I certainly agree with you that better inter agency coordination is essential. We currently suffer from dysfunction and lack of communication that can lead to a lack of compliance and proper inspection or enforcement. Wouldn't it benefit workers as well as the regulated community to first ensure there is better coordination between federal agencies as well as between state/local and federal agencies prior to creating more regulatory mandates that could lead to exacerbating current problems?**

No. It would not benefit workers and the regulated community to ensure coordination before addressing gaps and inconsistencies in regulatory mandates. There are numerous regulations within the scope of this executive order that need modernization to provide adequate protections to workers, communities and industry. Modernizing those regulatory mandates will make coordination easier and more effective in real-world impacts.

Ensuring better coordination between federal agencies as well as between state/local and federal agencies will take time and will be an ongoing process of assessment and adjustment. We cannot wait indefinitely for the "perfect" amount of coordination at every level of government.

- 2. If Congress were to adopt language requiring the consideration of IST or safer alternatives, what would be your recommendation for the structure of who within the government should be responsible for conducting reviews (DHS, OSHA, EPA, etc.)?**

The federal agencies should coordinate to ensure that IST is indeed safer for security, workers, the community and the environment. As part of the Coalition to Prevent Chemical Disasters, we have encouraged EPA to use its authority to require assessments of inherently safer technologies as a way to reduce risk. Under New Jersey's Toxic Catastrophic Prevention Act, the Department of Environmental Protection is responsible for ensuring that industry complete IST reviews. We have also advocated that the Chemical Facility Anti-Terrorism Standard (CFATS) be modified to allow the Department of Homeland Security to require specific security measures including feasible and proven IST measures.

- 3. During the hearing you state that voluntary efforts are reporting are fine but only if everyone participates. Are mandatory rules, regulations, and reporting requirements helpful if nobody is overseeing them or enforcing compliance?**

Yes. Mandatory rules, regulations and reporting requirements are helpful, even as federal agencies' budgets are slashed by Congress. Mandatory rules set a floor to put everyone on the same page and prevent disadvantaging the companies that are doing the right thing; and

industry can be held accountable for complying with mandatory rules, regulations and reporting requirements by workers and community members who want to ensure that they are protected.

4. Do you believe EPA has the adequate resources and expertise to oversee and regulate significant new rules over the approximate 13,000 facilities under the RMP?

I believe that EPA does admirable work with the resources that it has. However, more resources and staff would make EPA more effective. I believe you should work with your colleagues in the Senate to ensure that EPA funding under the RMP is increased.



**Executive Order 13650 - Region 2 Pilot Project
Stakeholder Meeting – November 19, 2013, Edison, NJ**

**NJ Work Environment Council - NY Committee for Occupational Safety and Health -
United Steelworkers - Professional Firefighters Association of NJ - NJ Public Interest
Research Group – Teamsters Local 877 - Greenpeace - BlueGreen Alliance - Jerry
Poje, Founding Chair, US Chemical Safety and Hazard Investigation Board**

Our aim for this meeting is to provide input to the working group agencies to recommend assessments of policies and practices and examples of current practices that we believe would be important steps for agency coordination to prevent chemical disasters. We intend to separately provide comments through the national process for the other sections of the Executive Order such as how to modernize policy, regulations, and standards. There are five areas where we have recommendations:

1. Ensure Rights to Know

New Jersey has been a leader in providing the right-to-know to workers and community members about chemical hazards. The Region 2 pilot project should look at New Jersey policies and examine the feasibility of expanding the right-to-know in concrete ways that will help prevent catastrophic chemical disasters.

Recommendations:

Develop a single definition for “high hazard facility” that can be used across the federal government

Develop and maintain a publicly accessible inspection database that encompasses all high hazard facilities (using a common definition) and indicates the results of federal and state inspections. This could be considered a “targeting database” and would help prevent facilities from falling through cracks in enforcement

Evaluate and identify the most effective electronic methods for communicating information about hazardous chemical inventories and high hazard facility risks to workers, emergency responders, and the public. Any online or mobile application used for communicating chemical hazard and chemical inventory information should include facilities covered under EPA, OSHA, and DHS regulations

Evaluate the training requirements of workers and managers at covered facilities to determine if additional required training is necessary to ensure adequate understanding of Process Safety Management (PSM) plans, Risk Management Plans (RMP), including off-site consequence information, NJ Toxic Catastrophe

Prevention Act (TCPA) requirements, and the NJ rule for Inherently Safer Technology (IST) review.

2. Promote Prevention through Safer Processes and Chemicals

The most effective way to prevent catastrophic releases at chemical facilities is to implement inherently safer technology (IST) by replacing hazardous substances with safer ones or adopting safer production processes. Again, New Jersey has been a leader through its NJ Toxic Catastrophe Prevention Act (TCPA) IST rules, which should be assessed as a model for determining and implementing best practices.

Recommendations:

Assess the extent to which New Jersey's IST rule has led to safer facilities by requiring a shift to safer chemicals and processes and evaluate industry's adopted best practice methods and obstacles to adopting IST. Why, for example, have many water utilities in New Jersey converted to safer technologies but seven have not?

Assess the impact of the IST review rule on these 10 facilities in New Jersey that potentially place at risk 100,000 people or more and assess why these facilities have apparently not yet utilized IST:

Kuehne Chemical Co, Inc (South Kearny, NJ)
Solvay Solexis (West Deptford, NJ)
Infineum USA L.P. (Linden, NJ)
Paulsboro Refining Company (Paulsboro, NJ)
DuPont Chambers Works (Deepwater, NJ)
DuPont Performance Polymers – Chambers Works (Deepwater, NJ)
Equistar Chemicals, LP (Edison, NJ)
Hercules Inc (Parlin, NJ)
Ferro Delaware River Plant (Bridgeport, NJ)
Bayonne Plant Holding LLC (Bayonne, NJ)

Produce an annual report containing a state-wide listing of all facilities that have adopted IST which qualified them to de-register from the EPA's Risk Management Program and/or the NJ DEP TCPA Program.

Assess and make recommendations on the effect of the NJ IST rule's confidentiality provisions on hazard awareness of facility workers, emergency responders, and the public at risk from releases from covered facilities. Implement these recommendations into any electronic communications method about high hazard facilities as described above

Assess how workers and their unions have been involved in the NJ IST review process and make recommendations for meaningful worker involvement in IST assessments.

Explore the use of technical assistance grants, modeled after CERCLA, for eligible communities located in "vulnerability zones" surrounding hazardous facilities so that workers and communities can benefit from the opinion of an independent qualified expert with no financial interest in a facility regarding the availability and feasibility of safer processes for that facility.

Assess the presence and impact of the National Institute of Environmental Health Sciences worker training programs on prevention of (and response to) catastrophic releases in Region 2.

Assess the strengths and weaknesses of NJ's unique rule on reactive chemicals.

3. Enhance Emergency Response

Prior to a release from a chemical facility, emergency responders need to know the hazards and specific locations of chemicals that are on site and be adequately trained and resourced to respond and minimize the damage as much as possible.

Recommendations:

Conduct an assessment of emergency response capacity at TCPA covered facilities in New Jersey and their host municipalities to evaluate the adequacy of evacuation plans, drills, routes, etc. in the event of a catastrophic chemical release. This should also include an assessment of numbers of first responders available (separated by paid and volunteer personnel), inventories of personal protective equipment including full body suits, hazmat training certifications, inventories of heavy equipment mobile units, the estimated response time based on location of listed high hazard facilities, etc. It also should include assessment of particular issues concerning emergency response capacity in low income and people of color communities, including lack of access to transportation and language barriers.

Ensure that emergency responders have information about hazards at facilities within their jurisdictions, possibly via the electronic tool described above

Assess the capacity, resources and functioning of Local Emergency Planning Committees (LEPCs) in Region 2 to understand and reduce the catastrophic

potential of high hazard facilities and to maintain and share best practices. This should include considering replacing NJ's 586 county and municipal LEPCs with county LEPCs that have full time staff and meaningful public participation, including from emergency responder unions, workers/unions at high hazard facilities, environmental justice organizations and journalists. It may also include notifying LEPCs that they have the right to sue facilities to enforce EPCRA reporting requirements (sec. 326).

Assess and make recommendations for agency interactions during and immediately after a catastrophic release. This should include interactions between federal, state, and local governments and with emergency responders, unions, community groups, and others who may be affected by the event.

4. Improve Inspections of High Risk Facilities

Inspections of high risk facilities are a critical component of preventing catastrophic releases. Currently, ensuring comprehensive facility safety and security may not be optimized because individual EPA, OSHA, and DHS inspections are triggered by and focused on narrower agency- specific criteria that may miss more glaring inadequacies covered by a sister agency's compliance priorities. Implementation of best practices in the field for inspections and information sharing is important to ensure that resources are most effectively used to protect workers and the public.

Recommendations:

Assess when and how multi-agency inspections have occurred at high risk facilities. In our experience, these have often occurred at the request of worker representatives in egregious situations and are not done routinely

Evaluate and identify best practices for conducting multi-agency inspections.
Test a single inspection framework that is inclusive of multiple agencies' criteria for inspections

Assess to what extent workers and their union representatives have participated during Risk Management Plan inspections by NJ DEP and during Process Safety Management inspections by OSHA and Public Employee OSHA, as they have the right to do. Make recommendations for practices to more effectively use meaningful participation by workers in inspections conducted by EPA, OSHA, DHS and state agencies

Assess, make recommendations on, and implement needed cross training of inspectors/field officers for multi-agency inspections and sharing of information between agencies

5. Promote Public Engagement in the EO Pilot Project

Many stakeholders within and outside Region 2 have an interest in the recommendations and actions that evolve from this pilot project. Of particular concern would be ensuring that best practices and recommendations for field operations in the pilot project inform and be informed by the modernization of national policies, standards and regulations. Also, there are many practical actions that may be taken in the field to prevent catastrophic releases without changing regulations that should be communicated beyond Region 2.

Therefore, it is imperative that the pilot project be an open process that involves and informs all stakeholders throughout its planning and implementation.

Recommendations:

Summarize the recommendations and best practices from the pilot project and identify proposals for communicating them to other regions, states, localities, facilities, workers, and communities.

Identify subsequent model projects to demonstrate effective ways to apply the best lessons learned from the model project and to evaluate important issues under-evaluated during the initial project

Include an open process to take comments from all interested stakeholders on a **draft** of the pilot project work products, including 90 day and 135 day deliverables to the EO National Workgroup. The final pilot project report should summarize these comments and indicate what stakeholder recommendations were or were not adopted and why.

Contact Information:

Rick Engler, Director, New Jersey Work Environment Council
rengler@njwec.org

Senator BOXER. Mr. Hansen, we are very happy to see you here, President, Downstream Strategies. Welcome.

STATEMENT OF EVAN P. HANSEN, PRESIDENT, DOWNSTREAM STRATEGIES

Mr. HANSEN. Chairman Boxer, Ranking Member Vitter, and members of the committee, thank you for the opportunity to testify. I am President of Downstream Strategies, an environmental consulting firm in West Virginia. Since 1997, we have worked with Government agencies, nonprofits and others on issues related to energy and water, science and policy.

On January 9th, a chemical leak was discovered one and a half miles upstream from the intake for West Virginia's largest public water system, and the leak was occurring from Freedom Industries, a chemical storage facility near Charleston. Secondary containment failed and 10,000 gallons of chemicals reached the Elk River. These chemicals were drawn into the drinking water plant and contaminated the water supply for more than 300,000 people. Businesses were closed, schools were shut, and hundreds of people sought medical attention.

In response, I coauthored a report, entitled The Freedom Industries Spill: Lessons Learned and Needed Reforms, which provides recommendations to prevent contamination of public water systems in the future. I then coauthored a second report, called Potential Significant Contaminant Sources Above West Virginian Water's Charleston Intake, which documents the range of potential water quality risks above the intake on the Elk River.

I would now like to address three existing Federal authorities with relevance to the President's Executive Order.

The first includes spill prevention control and countermeasure, or SPCC, requirements. The Freedom site was not subject to SPCC because these rules only apply to oil facilities. If SPCC rules had applied to chemical storage facilities, the risk of the Freedom leak occurring would have been significantly reduced. And if a leak did occur, specific planning and procedures would have already existed to respond rapidly and appropriately. New regulations using existing authorities could widen the applicability of SPCC to include not just oil facilities, but also other facilities that store hazardous substances.

The second Federal authority, the Safe Drinking Water Act, provides a planning process to address risks to drinking water. Public water systems must create source water assessment reports which delineate a zone of critical concern the river corridor immediately upstream from the intake that warrants more detailed management, because spills in this zone would quickly reach the intake. These assessment reports also inventory potential significant contaminant sources within these zones. The Act, however, does not mandate that public water systems take the next step to develop source water protection plans, which build upon the assessment reports and require planning for alternative water sources, contingency planning should contamination occur, and management planning to minimize risks.

The Chemical Safety and Drinking Water Protection Act would require additional oversight and inspections of chemical storage fa-

cilities under the Safe Drinking Water Act, and it requires other important steps toward improving chemical safety. However, I would suggest that additional measures be taken to protect intakes against all potential risks. It should be mandatory for public water systems to create protection plans, and both the assessment reports and protection plans should be periodically updated. Finally, all facilities upstream from intakes should be required to share pollution-related plans with downstream water systems.

Under the third Federal authority, the National Pollutant Discharge Elimination System, or NPDES, permits are typically required for operations, such as chemical facilities, with aboveground storage tanks. Freedom Industries held such a permit, but did not appear to follow the management practices the permit required. Nor did they immediately report the spill. In addition, the West Virginia Department of Environmental Protection did not inspect the site under NPDES, and did not review Freedom's stormwater pollution prevention plan or groundwater protection plan, as required.

I encourage the use of existing authorities to make individual permits mandatory for facilities within zones of critical concern above drinking water intakes. Individual permits must undergo public notice and comment, and would allow regulatory agencies to include site-specific conditions to protect source water. In addition, I encourage a requirement for annual inspections at NPDES-permitted facilities within these zones of critical concern.

Thank you.

[The prepared statement of Mr. Hansen follows:]



building capacity for sustainability

295 High Street, Suite 3, Morgantown, WV 26505

Testimony of Evan P. Hansen

**Before the Committee on Environment and Public Works
United States Senate**

March 6, 2014

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

Chairman Boxer, Ranking Member Vitter, and members of the committee, thank you for the opportunity to testify.

I am president of Downstream Strategies, an 11-person environmental consulting firm based in West Virginia. Since 1997, we have offered environmental services that combine sound interdisciplinary skills with a core belief in the importance of protecting the environment and linking economic development with natural resource stewardship. Our projects typically include elements of science and policy related to our Water, Energy, and Land Programs. Our tools include Geographic Information Systems, Monitoring and Remediation, and Stakeholder Involvement and Perspectives.

Our firm works successfully with many government agencies. At the federal level, we provide services to the Department of Veterans Affairs, Fish and Wildlife Service, Environmental Protection Agency, Department of Agriculture, and Appalachian Regional Commission. We also completed numerous projects for state agencies, local governments, nonprofit organizations, attorneys, private businesses, and individuals. Our projects commonly include elements of the Safe Drinking Water Act, Clean Water Act, Surface Mining Control and Reclamation Act, and other federal acts that strive to protect our environment and foster economic pursuits.

Background on the January 9 spill

On January 9, 2014, the West Virginia Department of Environmental Protection (WVDEP), in response to an odor complaint filed by a citizen, discovered a chemical leak about 1.5 miles upstream from the intake for the state's largest public water system. The leak was occurring from Freedom Industries, Inc., a chemical storage facility located on the bank of the Elk River, just outside of the Charleston city limits. Secondary containment had failed, and a reported 10,000 gallons of chemicals were leaking into the river.

The statewide spill alert hotline had not been notified, and the public water system, which is run by West Virginia American Water, a private company, had not shut its intake. Chemicals were drawn into the plant, passed through the plant without proper treatment, and contaminated the distribution piping network. This system serves more than 300,000 people in Charleston, the state capital, and the surrounding nine-county area. That day, Governor Tomblin declared a state of emergency with instructions not to use the water other than to flush toilets and fight fires. The state of emergency remained in effect until February 28.

The impacts of the spill have been significant. Without clean water, normal life could not continue. Businesses were closed, and schools were shut down. Marshall University produced an early estimate of the economic impact of the spill: \$19 million for each day that the water ban was in place, for a very conservative economic impact of \$61 million. According to this report, approximately 24% of the workforce in the affected area was impacted.

Almost immediately after the spill, the Centers for Disease Control and Prevention (CDC) announced a 1 part per million screening level for 4-MCHM to prevent adverse health effects based on the limited amount of information available at the time. On January 15, after new information came to light, CDC warned that pregnant women should not drink the water. Then, on January 21, Freedom Industries disclosed that a second chemical mixture, PPH, had been stored in the same tank that leaked. This disclosure further complicated efforts to determine safe levels. These events, combined with the fact that CDC did not initially provide justification for its 1 part per million screening level and that state officials implemented this screening level as a "safe" level, undermined public confidence.

Hundreds of residents sought medical attention after ingesting, washing in, or inhaling vapors from the water. Even today, almost two months after the spill, many affected residents refuse to drink or bathe in the water. While the official emergency is over, the region is still significantly impacted by the spill, and many residents and business owners have lost faith in public officials who have overseen the spill response.

This spill highlighted failures at the federal, state, and local levels of government, as well as in private industry. At the federal level, chemicals that spilled were grandfathered under the Toxic Substances Control Act; insufficient data and studies were available to quickly set scientifically defensible health-based thresholds for safe water after the spill. Also, the Safe Drinking Water Act did not require public water systems to undertake rigorous source water protection planning, relying instead of voluntary efforts.

At the state level, the Freedom Industries site was covered under a National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act. Although WVDEP issued this permit and has primary enforcement responsibilities, it did not inspect this site under NPDES and did not review or have copies of the

Storm Water Pollution Prevention Plan (SWPPP) or Groundwater Protection Plan (GPP). The NPDES permit specifically required that these two documents be reviewed by WVDEP during the first permit cycle and that they become enforceable provisions of the permit, in order to limit the potential release of chemicals to the environment and to perform timely response actions in the event of a release. To date, it appears that only one of these plans was ever even created—the SWPPP—and it was outdated, in draft form, and inconsistent with current site activity.

At the local level, the Local Emergency Planning Committee appeared to have been unaware that large quantities of harmful chemicals were stored at the Freedom Industries site and appeared not to have planned for the potential event that a leak would occur—even though Freedom Industries filed its Tier II forms under the Emergency Planning and Community Right-to-Know Act. Further, the Freedom site is highly conspicuous, in plain view of travelers along two major interstates near Charleston.

In the private sector, Freedom Industries failed to properly implement its NPDES permit by allowing pollutants to discharge into the Elk River and by failing to immediately call the spill alert hotline.

West Virginia American Water failed to engage in source water protection planning efforts. While this may not have been required under the Safe Drinking Water Act, it would have been prudent to be aware of the potential significant contaminant sources upstream from the intake and to have put systems in place to minimize risks posed by the facilities that stored the largest quantities of the most dangerous substances. Had such procedures been in place, Freedom Industries certainly would have been on the top of the list.

Downstream Strategies efforts since the spill

In response to the spill, Downstream Strategies released a report in partnership with the West Virginia Rivers Coalition entitled “The Freedom Industries Spill: Lessons Learned and Needed Reforms” on January 20. This report reviewed how the Clean Water Act, Safe Drinking Water Act, and Emergency Planning and Community Right-to-Know Act intersected with the spill itself, and the spill response. It also provided recommendations related to each law for preventing public water systems from being contaminated in the future.

One month later, on February 23, we released a second report entitled “Potential Significant Contaminant Sources above West Virginia American Water’s Charleston Intake: A Preliminary Assessment.” In this report, we documented a range of potential significant contaminant sources upstream from the Charleston intake and compared these against the existing public inventory, which was compiled in 2002.

Also, in an attempt to fill a critical gap left by state and federal spill responders, we have been performing in-home tap water testing for 4-MCHM and other relevant constituents. In our preliminary results, we found that four of 10 homes still had polluted water delivered by West Virginia American Water from January 18-

27, even after the "Do Not Use" order was lifted and flushing was performed according to the recommended procedure. Our most recent sampling has not detected MCHM in delivered water.

Existing federal authorities

The President's Executive Order on Improving Chemical Facility Safety and Security set a number of efforts in motion. The Chemical Facility Safety and Security Working Group, among other things, is investigating existing authorities that can be used to help manage chemical safety risks.

I would now like to address three existing federal authorities and their relevance to preventing chemical risks to our drinking water supplies: (1) Spill Prevention, Control, and Countermeasure (SPCC) requirements under the Clean Water Act; (2) source water protection planning under the Safe Drinking Water Act; and (3) NPDES permits under the Clean Water Act for facilities directly upstream from public water systems.

Spill Prevention, Control, and Countermeasure requirements

The Freedom Industries site was not subject to SPCC requirements because these regulations only apply to oil facilities. It is interesting to note that a previous site owner stored oil products in the same tanks, and presumably would have been subject to SPCC requirements.

If SPCC had included all types of chemical storage, and not just oil facilities, the risk of the Freedom Industries leak occurring would have been significantly reduced. If a leak did occur, specific planning would have already existed to respond very rapidly and appropriately. Under SPCC, Freedom Industries would have been required to install and maintain equipment to specific performance standards, conduct and document specific types of inspections, and train employees in both spill prevention and contingency measures should a spill occur.

As contemplated by the Executive Order, new regulations using existing authorities could widen the applicability of the SPCC regulations to include not just oil facilities, but all facilities with aboveground storage tanks, including chemical facilities.

Safe Drinking Water Act

The Safe Drinking Water Act provides a useful planning process to identify and address the most serious risks to drinking water. As required by the 1996 amendments, public water systems were required to create Source Water Assessment Reports. These Assessment Reports delineate zones of critical concern (ZCCs) for each intake: corridors along rivers and tributaries providing raw water to the system that warrant more detailed management because spills that occur in this zone would reach the intake very quickly. These

Assessment Reports inventory potential significant contaminant sources within the ZCCs. Finally, they identify the susceptibility of each intake to contamination.

More than 300 such reports were created across West Virginia, including one for the Charleston intake, which was published in 2002. This report delineated the ZCC, identified 51 potential significant contaminant sources within the ZCC, and determined that the Charleston system was highly susceptible to contamination. Because the plan is 12 years old, the list of potential significant contaminant sources is out of date. The Freedom Industries site, for example, was listed, but in 2002 the site was under different ownership and stored different types of materials. Further, the list of potential significant contaminant sources is not consistent with the current inventory of NPDES and other WVDEP-issued water resources permits in the ZCC.

The Safe Drinking Water Act does not mandate that public water systems take the next step to develop Source Water Protection Plans. Protection Plans build upon the Assessment Reports and require planning for alternative water sources, contingency planning should contamination occur, and management planning to identify and minimize the risks identified in the Assessment Reports.

While many Source Water Protection Plans have been written for public water systems across West Virginia, no such plan has been written for the Charleston system.

The Chemical Safety and Drinking Water Protection Act of 2014 (S. 1961), cosponsored by Senators Manchin, Boxer, Rockefeller, and Durbin, would amend the Safe Drinking Water Act to require additional oversight and inspections of certain chemical storage facilities. An inventory of facilities would be created. Inspections would be required every three years for facilities within ZCCs, and every five years for other facilities. It also mandates information sharing with downstream water systems. These are all important steps toward improving chemical safety, and the bill provides useful minimum standards for state programs such as the one now under consideration in West Virginia. However, this bill focuses only on chemical storage facilities—one of many types of potential contaminant sources upstream from drinking water intakes.

I would encourage additional measures to be taken to protect intakes against all potential risks. It should be mandatory for public water systems to create Protection Plans that are based on broad stakeholder involvement, as contemplated in existing guidance. In addition, Assessment Reports and Protection Plans should be periodically reviewed and updated. Potential contaminant sources change, and source water protection efforts must be based on current information to be effective. Finally, I encourage a requirement that all facilities upstream from public drinking water intakes be required to share SWPPPs, GPPs, SPCC plans, and other similar documents with downstream public water systems.

Clean Water Act

Under the Clean Water Act, industrial stormwater NPDES permits are typically required for operations such as those with aboveground storage tanks. These can be either individual or general permits. Even general permits include some site-specific information and requirements, which are documented in SWPPPs and GPPs. These plans outline a series of management practices that, among other things, should prevent spills, and, if a spill should occur, should ensure that it is handled appropriately. In addition, these NPDES permits require immediate spill reporting. NPDES permits, like any permits, are only effective if they are enforced.

Freedom Industries held a general industrial stormwater NPDES permit for the site at which the leak occurred. They did not appear to follow the management practices required by this permit, nor did they immediately report the spill. In addition, this permit was not enforced by WVDEP. It was not inspected under NPDES, and WVDEP did not review the SWPPP and GPP as required.

I encourage the use of existing authorities to make individual permits mandatory for facilities within ZCCs that are already regulated under NPDES. Unlike general permits, individual permits must undergo public notice and comment and would allow state regulatory agencies to include site-specific conditions that tie directly into Protection Plans. In addition, existing authorities could be used to mandate annual inspections at NPDES-permitted facilities within ZCCs.

Conclusions

Both the federal and state governments play important roles in minimizing the risk of chemical threats to drinking water. The federal government can take steps using existing authorities, as contemplated by the President's Executive Order. When necessary, new legislation such as the Chemical Safety and Drinking Water Protection Act of 2014 may also be required. Federal actions can complement those now under consideration by the West Virginia Legislature, which is debating a bill that would establish a new aboveground storage tank permitting system, mandate the creation and periodic updating of Protection Plans, require individual NPDES permits within ZCCs, and mandate annual inspections of such facilities.

Downstream Strategies

building capacity for sustainability

295 High Street, Suite 3, Morgantown, WV 26505

April 14, 2014

Mara Stark-Alcala
Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510

Dear Ms. Stark-Alcala:

Thank you for the opportunity to provide testimony before the Committee on Environment and Public Works on March 6, 2014, at the hearing entitled, "Preventing Potential Chemical Threats and Improving Safety: Oversight of the President's Executive Order on Improving Chemical Facility Safety and Security." I received the April 3, 2014 letter from Chairman Boxer and Ranking Member Vitter with two follow-up questions from Senator Vitter. In this letter, I provide responses.

1. Do you believe that Freedom Industries did not follow existing law? Would it make more sense to ensure existing laws are properly implemented and enforced prior to adding additional new layers of regulations?

Freedom Industries is currently under investigation by the United States Attorney's Office for the Southern District of West Virginia and is the target of lawsuits filed on behalf of people and businesses whose water was contaminated by the chemical leak. As these processes play out, it will become clear whether Freedom Industries followed existing laws.

What is clear now, however, is that the chemical leak at Freedom Industries and the ensuing water crisis occurred because of failures at many levels of government and in private industry. Properly enforcing and implementing existing laws certainly would have gone a long way toward minimizing the risk of the leak occurring; however, changes to laws and regulations are still warranted.

The need to implement and enforce existing laws while also adjusting those laws where warranted is illustrated by Freedom Industries' West Virginia/National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act. This permit is a registration under the state's general multi-sector industrial stormwater permit: Permit WVG610920, issued to Etowah River Terminal, LLC on 11/17/2009. The West Virginia Department of Environmental Protection (WVDEP) did not inspect the Freedom facility under NPDES. When the general permit registration was first approved, WVDEP appears not to have reviewed the two key documents that Freedom was supposed to have submitted: the stormwater pollution prevention plan (SWPPP) and groundwater protection plan (GPP). The SWPPP and GPP provide details on the practices that the permittee will implement to prevent non-stormwater discharges to surface water or groundwater. Based on WVDEP's response to a Freedom of Information Act request that I submitted, WVDEP appears not to have seen the GPP and cannot state for certain that it even exists. Only after the spill did WVDEP receive a copy of the SWPPP, which was dated February 14, 2002—12 years before the chemical leak—and was marked as a draft.

The Clean Water Act clearly provided tools, such as Freedom's NPDES permit, which WVDEP could have used to ensure that the Freedom facility took steps to minimize the risk of a leak. WVDEP failed to adequately use this tool, but this failure also points to the need for changes to the law and regulations.

Mara Stark-Alcala
 Page 2 of 3
 April 14, 2014

Senate Bill (SB 373), which was approved unanimously by the West Virginia Legislature and signed by Governor Tomblin, took several steps that will help to address these failures via the Public Water Supply Protection Act (PWSPA) and Aboveground Storage Tank Act (ASTA), two portions of SB 373.

The ASTA established a new regulatory program that will apply to tanks like the one that leaked on January 9. This program, which directly targets aboveground storage tanks, was absent in West Virginia.

Both the ASTA and PWSPA establish new inspection requirements.

- The ASTA requires annual self-inspections: “Every owner or operator of an aboveground storage tank regulated herein shall have an annual inspection of each tank performed by a qualified registered professional engineer or a qualified person working under the direct supervision of a registered professional engineer regulated and licensed by the State Board of Registration for Professional Engineers, or by an individual certified to perform tank inspections by the American Petroleum Institute, or by a person holding certification under another program approved by the secretary.”
- The ASTA also requires annual inspections by WVDEP: “To ensure protection of the water resources of the state and compliance with any provision of this article or rule promulgated thereunder, the [WVDEP] secretary shall inspect at least annually any aboveground storage tank facility located within the Zone of Critical Concern of a public water system with a public surface water supply source or a public surface water influenced groundwater supply source.”
- The PWSPA goes even further and requires that WVDEP inspect **all potential significant contaminant sources** within zones of critical concern—not just aboveground storage tanks: “To ensure protection of the water resources of the state and compliance with any provision of this article or rule promulgated thereunder, the [WVDEP] secretary shall inspect at least annually any designated site of potential contamination which is located within the Zone of Critical Concern for a public water system’s surface water intake.”

The ASTA and PWSPA also establish new permitting requirements under NPDES.

- Under the PWSPA, general NPDES permits are now prohibited in zones of critical concern above public water intakes for facilities with aboveground storage tanks. The Freedom facility (if it were not being dismantled) would now be required to operate under an individual NPDES permit, which allows WVDEP to include site-specific conditions.
- The ASTA creates a direct link between the new aboveground storage tank requirements and NPDES: “If the aboveground storage tank or tanks’ location is to be regulated pursuant to a general NPDES permit or an individual NPDES permit, the secondary containment, spill prevention, leak detection and control requirements, inspection requirements, reporting requirements and routine integrity testing requirements for that tank or tanks are to be specifically set forth as enforceable permit conditions and requirements.”

In summary, while implementation and enforcement of existing laws and regulations were insufficient to prevent the chemical leak and the resulting water crisis, SB 373 took a balanced and targeted approach to clarify and strengthen these laws and regulations in ways that will minimize the risk that such a spill will occur in the future.

Mara Stark-Alcala
Page 3 of 3
April 14, 2014

2. Are you aware of a letter sent on January 24 from a group of West Virginia scientists as well as an opinion piece published by members of the Society of Environmental Journalists both complaining of the lack of federal transparency with regards to the West Virginia spill? Particular complaints were levied by both letters at EPA and the scientists commented on failures by both EPA and CDC "If the government had been more forthcoming about what is not known about the leaked chemicals, citizens and local officials would have been able to make better choices about the actions needed to protect their families and communities." Do you share these concerns and criticisms of these West Virginia scientists aimed at the EPA and CDC? Given EPA and other federal agencies failures to communicate and adequately inform the public, would it be fair to say that state and local officials - given adequate resources - are more suitable to handle many of these regulations and responses at a local level?

I am aware of the January 24 letter from West Virginia scientists and the January 20 letter from the Society of Environmental Journalists, and I share the concerns stated in those letters. For a period of time after the leak, there was a critical lack of communication from federal scientists and officials, including about how CDC had calculated its 1 part per million threshold.

However, this does not mean that state and local officials would have been more suitable to handle the crisis on their own. Skilled scientists, doctors, communication professionals, and others at all levels of government—from the local health department to state agencies to federal agencies—should have worked in partnership immediately after the leak and throughout the crisis to determine appropriate thresholds, flushing practices, and water testing plans, and to implement effective communication strategies.

Our public officials and the roughly 300,000 people impacted by the chemical leak were placed in a very difficult situation. Frequent, frank, and transparent communication, including an acknowledgement of what was known and what was not known at each stage of the crisis, would have gone a long way toward building trust in the government's response.

Thank you for the opportunity to provide testimony before the Committee on Environment and Public Works. Please do not hesitate to contact me if you have any additional questions.

Sincerely,



Evan Hansen
President

Senator BOXER. Thank you, sir. I put in the record a letter I sent to Administrator McCarthy, asking her to look at existing authorities, and we will share that information with you and, of course, everyone else who is interested in this issue when I get that answer back. So thank you for that.

[The referenced letter was not received at time of print.]

Mr. HANSEN. Thank you.

Senator BOXER. We are now going to turn to Mr. Billy Pirkle, Senior Director, Environment, Health and Safety, Crop Production Services. Thank you very much for being here, sir.

STATEMENT OF BILLY PIRKLE, SENIOR DIRECTOR, ENVIRONMENT, HEALTH AND SAFETY, CROP PRODUCTION SERVICES

Mr. PIRKLE. Thank you, Chairman Boxer and Ranking Member Vitter, and members of the committee. I am speaking here today, testifying on behalf of The Fertilizer Institute, which is the representative of most of the fertilizer producers, wholesalers, retailers, and trading firms. In my role with CPS, I am the Senior Director of Environmental Health and Safety, and our office is located in Loveland, Colorado.

The fertilizer industry is accountable, responsible, and committed to the safety of the communities in which we operate. Our employees often live and work in the same communities in which our facilities are located and have a deep understanding and a commitment to the safe operations and the impact that it has on the families and their neighbors. We are dedicated to working with the investigators and regulators to understand the cause or causes of last April's West Fertilizer chemical tragedy. We have already taken concrete steps to prevent and, if necessary, mitigate future incidents from occurring.

I am proud to announce today that TFI and ARA, the Agricultural Retailers Association, are creating ResponsibleAg, an independent, not-for-profit organization designed to support and enhance fertilizer retailer awareness and compliance with Federal safety and security regulations. A brochure is attached to my testimony for your reference.

Under ResponsibleAg, all of the Nation's retail fertilizer dealerships will have access to comprehensive inspections based on Federal regulatory requirements. The inspections will be carried out by professionally trained auditors who will have successfully completed an intensive training course based on the objectives of ResponsibleAg.

While the majority of fertilizer retail businesses operate safely and securely, we are acting out of an abundance of caution and concern for the well being of the workers and the communities. ResponsibleAg will enhance the current regulatory scheme to verify compliance at more facilities. For some retailers, the myriad Federal agencies that regulate our industry can be a challenge to navigate, and we understand that the Government agencies have limited resources. We are choosing now to act more quickly to address these issues.

ResponsibleAg will certify auditors who inspect and verify individual facilities' level of compliance with applicable Federal regulations. Facilities will complete assessments and be recognized for

the completion, and those that have not successfully completed will receive an audit report with recommendations and suggested corrective actions.

Getting ResponsibleAg up and running is a priority for TFI, and we are donating or providing \$100,000 in startup capital to ensure a quick startup of the organization. ARA, the Agricultural Retailers Association, has pledged an identical financial donation, and the Asmark Institute will provide training programs, facilities, and administer the Web site and data base. Asmark Institute has previously worked in a cooperative manner with EPA in developing the myRMP Risk Management Program compliance tool for ag retailers. They also have worked with the Department of Transportation to develop an anhydrous ammonia nurse tank inspection program.

Once established, ResponsibleAg will be funded by registration fees by participating fertilizer storage and handling inventory points and their suppliers. Auditor training costs will be funded by the tuition paid by these members seeking the auditor credentials, and membership in this association is not a requirement for participation by any other State or trade association.

We support the Executive Order 13650 and have worked collectively with the Working Group and will continue to do so. TFI supports better coordination between State and Federal agencies and cross-reference data bases that improve coordination of inspections to minimize facility time and agency resources. TFI has strongly encouraged its members to reach out to local emergency responders, inviting them to visit and tour their facilities to clearly understand the risks and hazards of the products that we handle.

I thank you for the time, Senator Boxer.

[The prepared statement of Mr. Pirkle follows:]



Statement of Billy Pirkle
Senior Director of Environment, Health and Safety
Crop Production Services

On Behalf of
The Fertilizer Institute

Before the

United States Senate Committee on Environment
and Public Works

Preventing Chemical Threats and Improving Safety:
“Oversight of the President’s Executive Order on
Improving Chemical Facility Safety and Security”

March 6, 2014

Chairman Boxer, Ranking Member Vitter and members of the committee, thank you for the opportunity to appear before you today. I am here to testify on behalf of The Fertilizer Institute (TFI), the leading voice of the nation's fertilizer industry. Tracing its roots back to 1883, TFI's membership includes fertilizer producers, wholesalers, retailers and trading firms. TFI's full-time staff, based in Washington, D.C., serves its members through legislative, educational, technical, economic information, public communication and environmental stewardship programs.

My name is Billy Pirkle and I am the Senior Director for Environment, Health, and Safety for Crop Production Services (CPS). In this role, I am responsible for the oversight of regulatory programs for the company's retail operations. CPS is headquartered in Loveland, Colorado. The company was established in 1983, but predecessor companies began operating as early as 1859. We are an innovative, full-service agriculture retailer with the vision of helping our farmer customers feed the world responsibly by growing more food, protecting the environment, supporting economic vitality, and enhancing communities.

Before I begin my testimony, on behalf of The Fertilizer Institute and its members, I would like to extend my thoughts and prayers to the families impacted by the tragedy in West, Texas as they continue working to rebuild their community.

We are taking concrete action

The fertilizer industry is accountable, responsible and committed to the safety of the communities in which we operate. Our employees often live and work in the same town, and have a deep understanding that their commitment to safe operations has a real-world impact on their family and their neighbors. We are dedicated to continuing to work with the investigators and regulators to understand the cause or causes of last April's West Fertilizer Company tragedy and have already taken concrete steps to prevent and if necessary, mitigate future incidents from occurring.

We support uniform regulatory compliance

Chairman Boxer, Ranking Member Vitter and members of the committee, I am proud to announce today that The Fertilizer Institute and the Agricultural Retailers Association (ARA) are creating ResponsibleAg, an independent, not-for-profit organization designed to support and enhance fertilizer retailers' awareness and compliance with federal safety and security regulations.

Under ResponsibleAg, all of the nation's retail fertilizer dealerships will have access to comprehensive inspections based on federal regulatory requirements. The inspections will be carried out by professionally trained auditors who will have successfully completed an intensive training course based on the objectives of ResponsibleAg.

While the vast majority of fertilizer retail businesses operate safely and securely, we are acting out of an abundance of caution and concern for the wellbeing of workers and communities. ResponsibleAg will enhance the current regulatory scheme to verify compliance at more facilities. For some retailers the myriad federal agencies that regulate our industry can be a challenge to navigate and we understand that government resources are limited. We are

choosing to act now to more quickly address these issues.

ResponsibleAg will certify auditors who will inspect and verify individual facilities' level of compliance with applicable federal regulations. Facilities that successfully complete assessments will be recognized for having done so. Any site that does not successfully complete an assessment will be provided a list of recommended corrective actions with a timeframe to complete these actions. Additionally, random quality assurance reviews to verify the assessments will be conducted.

Getting ResponsibleAg up and running is a priority for TFI and we are providing \$100,000 in startup capital to ensure a quick start up for the organization. ARA has pledged an identical financial donation and the Asmark® Institute will be providing training programs, training facilities and will administer of the ResponsibleAg website and database. As I will outline later in my testimony, the Asmark® Institute has a history of working on a cooperative basis with federal agencies, having collaborated with U.S. Environmental Protection Agency (EPA) to develop online Risk Management Plan (RMP) compliance tools for retailers that handle anhydrous ammonia and having worked with the U.S. Department of Transportation (DOT) to develop an anhydrous ammonia nurse tank inspection program.

Once established, ResponsibleAg will be funded by registration fees paid by participating fertilizer storage and handling inventory points and their suppliers. Auditor training costs will be funded by tuition paid by those seeking the ResponsibleAg auditor credential. Membership in TFI, ARA or any other organization is not a requirement for participation. A fact sheet on ResponsibleAg has been submitted with this testimony.

Fertilizer retailers play a critical role in the nation's food production system and support local economies by providing jobs and purchasing goods and services. We believe that achieving this mission must be accomplished in an environment of regulatory compliance. ResponsibleAg will help ensure that whether small or large, these essential businesses have access to the information necessary meet their federal regulatory compliance obligations.

We support reasonable regulation

After the tragic explosion in West, Texas, TFI repeatedly expressed its willingness to re-examine past policy positions and determine whether they needed to be changed based on what was learned both on the ground and as a result of ongoing investigations.

We support Executive Order 13650 Improving Chemical Facility Safety and Security's call for greater federal and state regulatory cooperation, information collection and sharing, modernization of policy regulation and standards as well as identification of best practices. We have been in constant contact with the Executive Order working group and we continue to provide information on all of the abovementioned areas.

Specifically, TFI supports efforts to better coordinate between state and federal agencies, cross reference databases, and improve federal coordination of inspections to minimize facility time and agency resources. TFI has strongly encouraged its members to contact local emergency responders and invite them into our facilities so that they will have a clear understanding of the

fertilizer business and the products that they handle. West Fertilizer Co. was not a member of TFI or any other national trade association and as such, would not have received our frequent reminders of the importance of emergency responder and community outreach. To bridge that gap, we have worked with state fertilizer and agrichemical associations to encourage their members to communicate with their local first responders, LEPC's and SERC's.

To ensure transparency and greater public awareness of products held for sale at fertilizer retail facilities, we support elimination of the fertilizer retail exemption for reporting under the Emergency Planning and Community Right to Know Act (EPCRA) section 311 and 312. It is our position that everyone should report hazardous chemicals stored on site to local emergency planning commissions (LEPC) and state emergency response commissions (SERC) and without exception, work with local fire departments to educate them on products held for sale at a retail facility. In order to make this reporting requirement effective, it is very important that it be limited to hazardous chemicals, so that LEPC's and SERC's aren't overburdened with unnecessary information. For example, if retailers are forced to report materials such as potash, a non-hazardous mined mineral fertilizer, to first responders, they are just creating more paperwork and wasting valuable resources that should be used on responding to truly hazardous materials.

While TFI believes that compliance with existing federal regulations could have prevented or mitigated the tragic accident in West, Texas, we will continue to work within the regulatory framework and with the EO working group to help attain our shared goal of increasing safety and security at our facilities and the communities in which we operate.

For many years the fertilizer industry has served on the National Fire Protection Association's (NFPA) Technical Committee on Hazardous Chemicals (NFPA 400) which is the committee of jurisdiction over the fire code for the storage and handling of ammonium nitrate. NFPA 400 outlines recommended practices that include, but are not limited to; construction of buildings and building floors, ventilation requirements, a list of contaminants that should not be stored in the same building with ammonium nitrate, requirements for electrical installations, when sprinklers are required, signage, handling equipment and fire protection procedures. I would like to point out that the fertilizer industry strongly supports and encourages adherence to NFPA 400 for ammonium nitrate. NFPA is currently revising this guidance and consistent with past practice, TFI members are lending technical assistance to this effort.

Finally, I would like to let the committee know that in addition to safety, the security of our products also remains of the utmost concern to the fertilizer industry. The fertilizer industry approached Congress in 2005 to seek traceability regulations for ammonium nitrate and the resulting Secure Handling of Ammonium Nitrate Act was signed into law in December 2007. The Act replaces a patchwork of state regulations by requiring the U.S. Department of Homeland Security (DHS) to issue regulations for a tracking system which would require anyone selling or purchasing straight solid ammonium nitrate and any mixture in a percentage to be determined by DHS to register with DHS. An Advanced Notice of Proposed Rulemaking (ANPR) was issued in October 2008 and a Notice of Proposed Rulemaking (NRPM) was issued in August 2011.

TFI strongly supported Congressional introduction of the Act as it provides a common-sense “track and trace” system for ammonium nitrate. For this reason, we have gone on the record to encourage DHS to issue the final regulations as soon as possible.

We are not waiting for the government to act

In the days following the West, Texas explosion, TFI reached out to members of congress, including this committee, as well as federal regulatory agencies including OSHA, EPA and DHS to offer assistance and serve as an information resource.

That was only the beginning of our effort to address the issues that surfaced after the West, Texas explosion. Over the past year, TFI has taken a number of concrete steps to work with federal regulators and investigators and to keep the community of fertilizer retailers informed of the most up to date technical and compliance information.

Compliance with the complex maze of federal regulations has led many retailers including CPS to invest heavily in compliance programs including dedicated personnel and the use of outside consultants. Within just days of the West explosion, TFI made an online compliance assistance module developed by the Amark® Institute® available free of charge to every retailer in the country. Using this web-based program, retailers are able to generate a customized check list for use in auditing their compliance with current federal regulations.

When we made this free tool available, TFI and ARA enlisted assistance from the entire fertilizer industry - from producers, importers, wholesalers, retailers and state associations - to help increase retailers’ awareness of the availability of this tool and other potential regulatory compliance resources. As of February 1, more than 60,000 hits were recorded on the website with more than 2,000 completed assessments.

Additionally, we distributed information on the tool to members of the American Agronomic Stewardship Alliance (AASA), a voluntary organization with third-party auditors who inspect bulk pesticide storage at retail agricultural facilities

Although we are still awaiting the final Chemical Safety Board (CSB) report on West, Texas, it is clear today that emergency responders had insufficient information regarding safe procedures for responding to a fire involving ammonium nitrate.

In order to fill the void in emergency response guidance specific to ammonium nitrate fertilizer at retail fertilizer facilities, TFI has worked with ARA to develop updated guidelines for use as a resource by the industry, government agencies and emergency responders. Today, I am pleased to inform you that “Safety and Security Guidelines for the Storage and Transportation of Ammonium Nitrate Fertilizers,” has been finalized and will be widely disseminated throughout the industry. A copy of the guidelines is enclosed with this testimony. We will be seeking assistance from federal and state agencies in distributing this important document. TFI hopes that this fertilizer specific information will ensure that emergency responders have the best and most recent information available when responding to an incident at a retail facility.

The fertilizer industry willingly partners with regulators

TFI has a long history of voluntary cooperation with government agencies and others in the chemical industry to enhance safety, security and regulatory compliance.

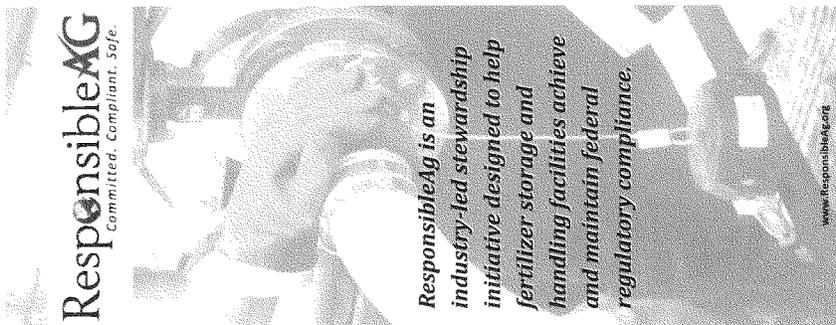
As referenced earlier in my testimony, in 2007, TFI partnered with the EPA and the Asmark® Institute, to develop myRMP, a web-based compliance assistance program for retail fertilizer facilities covered under EPA's Clean Air Act, Section 112(r) Risk Management Program. EPA officially recognized the program having issued a letter of support for myRMP in August 2007. In June 2014, the five-year updates of RMP's are required by law. In an effort to ensure continued cooperation and support of this valuable compliance assistance program, TFI and the Asmark® Institute worked with EPA to review the existing myRMP materials and make beneficial updates to the current program which is now available for all retailers' use in completing their RMP plans.

Hands-on instruction is tremendously beneficial in effective emergency response and prevention. The National Agronomic Environmental Health and Safety School, established in 1978 and long-supported by TFI, provides just this type of training on the various environmental, health and safety, security and transportation issues associated with the operation of agribusinesses. TFI serves on the safety school's Board of Directors.

As I mentioned earlier, addressing security issues is also of paramount importance as we work to keep communities safe. Following the tragedy of September 11, 2001, TFI worked with the Asmark® Institute to develop a voluntary Security Vulnerability Assessment program tailored to helping agricultural retail facilities identify and correct potential vulnerabilities. In addition, the industry developed "Guidelines to Help Ensure a Secure Agribusiness," to help agricultural retailers, distributors, wholesalers and end-users begin to develop a security assessment for their facilities.

TFI has also worked closely with the Federal Bureau of Investigation (FBI) on security education and outreach efforts to help ensure agricultural retailers and suppliers are aware of necessary steps to properly secure essential crop inputs including fertilizers. These efforts are designed to help prevent these beneficial agricultural products from getting in the hands of potential terrorists.

Chairman Boxer, Ranking Member Vitter and members of the committee, I hope that my testimony today demonstrates that the fertilizer industry's commitment to safety and security is genuine and that it is being realized through voluntary actions as well as a willingness to examine and as appropriate, revise our existing policy positions in the wake of the West, Texas explosion. I would like to thank you again for the opportunity to appear before the committee today and I look forward to answering any questions you may have.



ResponsibleAg
Committed. Compliant. Safe.

ResponsibleAg is an industry-led stewardship initiative designed to help fertilizer storage and handling facilities achieve and maintain federal regulatory compliance.

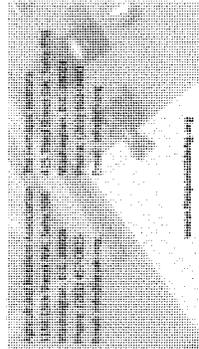
www.responsibleag.org

Why We Need ResponsibleAg

The U.S. fertilizer industry seeks to continually improve its safe storage and handling practices and to ensure a high level of regulatory compliance. We intend to promote a culture of safety and demonstrate that commitment through this program. Not only is this good for business, but it's the right thing to do for our employees, customers and neighbors.

Through ResponsibleAg, the industry is taking voluntary steps to:

- ◊ Improve safety and security associated with storage and handling of fertilizer products.
- ◊ Support compliance with federal laws and regulations.
- ◊ Demonstrate accountability and transparency.
- ◊ Provide for the safety of our personnel, our customers and our communities as we serve the vital need for crop nutrients.



How the System Works

Participation in ResponsibleAg is voluntary. Fertilizer distributors and retailers, regardless of size or location, are invited to participate.

Participating facilities will receive an assessment every three years. Assessments must be conducted by auditors who are credentialed on ResponsibleAg protocol. Upon enrollment, companies may choose to use an independent auditor certified by ResponsibleAg or their own internal auditor. Companies choosing to utilize an internal auditor must ensure their auditors are credentialed on ResponsibleAg's protocol before conducting an assessment.

A statistically-valid sample of assessments performed each year will be randomly selected to receive a quality assurance verification designed to evaluate the auditor's work and ensure a reliable and trustworthy end-product.

Verifications will be conducted by an auditor selected by ResponsibleAg.

Scope & Definitions

ResponsibleAg is focused on federal regulations pertaining to fertilizer storage and handling of ammonium nitrate (AN) and anhydrous ammonia (NH₃). Registrations and assessments are handled by site (rather than by company).

ResponsibleAg will develop a single assessment checklist and auditor training curriculum based on existing federal regulations.

www.responsibleag.org

ResponsibleAG

Culture of Compliance

Participating facilities are assessed every three years by a credentialed, ResponsibleAg auditor.

Registered facilities receive an **assessment** every three years. Participating sites may use internal or internal auditors, provided the auditor holds a ResponsibleAg credential. Facilities passing the assessment will be listed as "fit for service" in the ResponsibleAg database. Facilities that do not pass will receive a summary of corrective actions. Once completed, the facility would certify its compliance, and its status would be reinstated. Suppliers may request documentation of completion, and ResponsibleAg may establish additional procedures to ensure completion. Out-of-compliance facilities will be removed from the "fit for service" list within the database.

Internal Certification

Internal auditors must assess participating facilities every three years. Facilities must also submit affirmation from management or ownership that self-certification assessments have been completed according to ResponsibleAg protocol. Assessment results are posted to the database.

External Certification

Participants using external auditors must assess each facility every three years. Results of the assessment are posted to the ResponsibleAg database.

Third-Party Verification

To assure a high degree of reliability, a sample of facilities will receive random verification from an independent auditor annually.

A random, statistically-valid sample of all registered facilities will be selected annually for verification by an independent auditor approved by ResponsibleAg. Selected facilities could come from the internal or external certification pool. Verifications will help ResponsibleAg monitor effectiveness of auditor training, provide an important quality assurance check on auditors, and ensure accountability.

Accountability

Reporting on progress and sharing knowledge.

An annual accountability report will include the number of registered facilities, credentialed auditors, completed assessments and random verifications. ResponsibleAg will establish procedures for appeals and dispute resolution to ensure transparency and fairness. An online dashboard will be provided to participating companies to share frequently discovered issues and discuss suggestions to address them.

Fertilizer Suppliers

Supporting and encouraging participation.

Registered suppliers will have access to the database to determine if prospective customers have successfully completed the ResponsibleAg assessment. Suppliers will use the database to inform their business decisions and play a vital role of encouraging customers to participate in the program.



**SAFETY AND SECURITY GUIDELINES FOR THE STORAGE
AND TRANSPORTATION OF FERTILIZER GRADE
AMMONIUM NITRATE AT FERTILIZER RETAIL FACILITIES**

FEBRUARY 2014

Capitol View
425 Third Street, S.W., Suite 950
Washington, DC 20024

202.962.0490
202.962.0577 fax
www.tfi.org

1156 15th Street, NW
Suite 500
Washington, DC 20005

(202) 457-0825
(202) 457-0864 fax
www.aradc.org

**SAFETY AND SECURITY GUIDELINES FOR
THE STORAGE AND TRANSPORTATION OF FERTILIZER
GRADE AMMONIUM NITRATE
AT FERTILIZER RETAIL FACILITIES¹**

1.0 SCOPE AND PURPOSE

1.1 These Guidelines cover the storage and transportation of Fertilizer Grade Ammonium Nitrate (FGAN) at fertilizer retail facilities.

1.1.1 The U.S. Department of Transportation (DOT) has three entries for FGAN:

- Class 5 Oxidizer, Division 5.1, UN1942², PG III material – Defined as ammonium nitrate (AN), with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance.
- Class 5 Oxidizer, Division 5.1, UN2067³, PG III material – Defined as uniform mixtures of fertilizers containing AN as the main ingredient within the following compositional limits:
 - Not less than 90% AN with not more than 0.2% total combustible, organic material calculated as carbon, and with added matter, if any, that is inorganic and inert when in contact with AN; or
 - Less than 90%, but more than 70%, AN with other inorganic materials, or more than 80%, but less than 90%, AN mixed with calcium carbonate

¹ TFI and ARA made considerable efforts to ensure the information contained herein is accurate. Users of these guidelines are strongly recommended to confirm that the information contained within them, is correct by way of independent sources. TFI and ARA accept no responsibility for any inaccuracies, does not make any warranty or representation, either express or implied, regarding its accuracy, completeness, or utility; nor does TFI and ARA assume any liability of any kind whatsoever resulting from the use or reliance upon, any information, material, or procedure contained herein, including but not limited to any claims for damages, loss or injury regarding health, safety, or environmental effects.

² 49 C.F.R. § 172.101

³ 49 C.F.R. § 172.102 (150)

and/or dolomite and/or mineral calcium sulphate, and not more than 0.4% total combustible, organic material calculated as carbon; or

- AN-based fertilizer containing mixtures of AN and ammonium sulphate with more than 45%, but less than 70%, AN, and not more than 0.4% total combustible, organic material calculated as carbon such that the sum of the percentage of compositions of AN and ammonium sulphate exceeds 70%.
- Division 9, UN2071⁴, PG III material, by highway only – Defined as uniform, AN based fertilizer mixtures, containing nitrogen, phosphate or potash, meeting the following criteria (1) contains not more than 70% AN and not more than 0.4% total combustible, organic material calculated as carbon, or (2) contains not more than 45% AN and unrestricted combustible material.

- 1.1.2 FGAN is a U.S. Department of Homeland Security (DHS) chemical of interest listed in Appendix A of the Chemical Facility Anti-Terrorism Standards (CFATS) as a theft-diversion security risk. For purposes of the CFATS program, FGAN is defined as solid AN with a minimum concentration of 33% or greater, and a nitrogen concentration of 23% or greater, and has a Screening Threshold Quantity for risk of theft-diversion of 2,000 pounds.
- 1.1.3 FGAN and mixtures in vessels and waterfront facilities are regulated as a certain dangerous cargo in 33 C.F.R. § 126.28 and, therefore, are also regulated by the U.S. Coast Guard in 33 C.F.R. Part 105 (security requirements).
- 1.2 The purpose of these Guidelines is to outline best practices for the safety and security of FGAN in storage and in transportation at fertilizer retail facilities.

⁴ 49 C.F.R. § 172.102 (132)

2.0 SAFETY

2.1 Owners/operators of all FGAN facilities should be aware that the safety of their workplaces and operations may be subject to the “General Duty Clause” of the Occupational Safety and Health Act at 29 U.S.C. § 654(a)(1).⁵

2.1.1 Where applicable, owners/operators must comply with the U.S. Occupational Safety and Health Administration’s (OSHA’s) Process Safety Management Standard (PSM) at 29 C.F.R. § 1910.119. FGAN is not a chemical substance currently listed in 29 C.F.R. § 1910.119, Appendix A and, therefore, facilities solely storing FGAN are not subject to the PSM. However, facilities storing FGAN and involved in other activities (storing other fertilizers or engaging in blending operations) may be subject to the PSM if they have quantities of chemical substances listed in 29 C.F.R. § 1910.119, Appendix A in excess of the corresponding threshold quantities.

2.1.2 Avoid heating FGAN in a confined space above 170°C (*e.g.*, processes involving FGAN should be designed to avoid this possibility).

2.1.3 Owners/operators should ensure that facilities have implemented a “hot work” program consistent with OSHA requirements at 29 C.F.R. § 1910.252. It is important to avoid heating or welding on a machinery or piping where AN might be confined.

2.1.4 Ensure that FGAN is not exposed to shock (*e.g.*, shock waves from explosives).

2.1.5 Avoid contamination of FGAN with combustible materials or organic substances including, but not limited to: (i) organic chemicals, acids, or other corrosive materials; (ii) compressed flammable gases; (iii) flammable and combustible materials, solids or liquids; and, (iv) other contaminating substances such as wood chips, organic materials, chlorides, phosphorus, finely divided metals, charcoals, diesel fuels and oils, sulfur.

⁵ The Clean Air Act (section 112(r)(1) (42 U.S.C. § 7412(r)(1)) contains a similar “General Duty Clause” requiring owners and operators of stationary sources to “identify hazards which may result from . . . releases using appropriate hazard assessment techniques, design and maintain a safe facility taking such steps as are necessary to prevent releases, and minimize the consequences of accidental releases which do occur.” Since these Guidelines focus on safety and security, we do not address the Clean Air Act’s “General Duty Clause” herein.

2.1.6 Avoid contamination of FGAN with inorganic materials that may contribute to its sensitivity to explosion, including chlorides and some metals, such as chromium, copper, copper alloys such as brass or bronze, cobalt, and nickel, and finely divided or powdered metals that may act as fuels.

2.1.7 Ensure that all electrical components/systems are in compliance with the National Electrical Code.

2.1.8 Ensure that the facility has implemented a Lock Out/Tag Out program in accordance with 29 C.F.R. § 1910.147.

2.1.9 Facility access points should be posted “NO SMOKING, NO OPEN FLAMES.”

2.1.10 All facility access points should be posted with a durable, reflective danger warning sign at least 4ft. x 4ft. where it is visible to fire responders and police. The warning sign text and important Hazard Communication information should state, at a minimum: “WARNING. Do not fight fires at this facility without consulting the facility operator. Refer to ERG Guide 140 and Safety Data Sheet (SDS). In case of an emergency CALL 9-1-1 or [local emergency number] and the facility owner/operator.”

2.1.11 Owners/operators of facilities should develop a written emergency plan in accord with 29 C.F.R. § 1910.120 for responding to releases of, or substantial threats of releases of, AN. Provide training to employees implementing the emergency plan. Plans should be specific to the facility and community. Also, plans should be specific as to when a fire is considered to have engaged AN. The rule of thumb is **if outside emergency responders are necessary, do not fight AN fires**. For fires that have engaged AN, plans should focus on evacuation of the area. When the facility in question is close to the public, plans should focus on evacuation. For facilities in areas with inadequate water supplies and fire hydrants, plans should focus heavily on evacuation.

2.1.12 Plans prepared under section 2.1.12 should be provided to, and coordinated with, local emergency responders. In addition, owners/operators should provide local emergency responders with current copies of SDSs and review appropriate fire response. Further, owners/operators should conduct exercises with local emergency responders to train personnel on how to carry out proper emergency response and to revise the plans, as necessary.

2.1.13 Suppliers should provide information to customers describing the hazards associated with FGAN, proper management and housekeeping requirements, and information regarding regulatory requirements applicable to the safe storage of the material. At a minimum, this should include a FGAN SDS.

2.2 Storage

2.2.1 General Requirements

2.2.1.1 All FGAN storage sites should consider various government agency chemical advisories on the safe storage, handling, and management of AN. The most current and comprehensive advisory is "Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate (EPA 550-S-13-001 August 2013). Owner/operators of FGAN storage sites should be aware that these advisories will be updated, as necessary, with any new information.

2.2.1.2 Steel and wooden bins and other structural materials in immediate contact with FGAN should be protected by special coatings (29 C.F.R. § 1910.109(i)(4)(ii)(b)). Steel and wooden bins can be protected by special coatings such as sodium silicate (water glass), or epoxy coatings, or polyvinyl chloride coatings.

2.2.1.3 AN storage areas should have automatic fire detection and alarm system if the areas are not continuously occupied. Water supplies and fire hydrants shall be available in accordance with recognized good practices. (29 C.F.R. § 1910.109(i)(7)(ii)(b)). Situations where water supplies, rate of flow, and fire hydrants are not available should be accounted for in the emergency response plan (See 2.1.12). Smoking, open flames, and unauthorized sparking or flame-producing devices should be prohibited in the immediate area.

2.2.1.4 If firefighters consider it appropriate to engage an AN fire, flooding quantities of water from a distance should be used as promptly as possible.

2.2.1.5 Bins should have appropriate ventilation and be constructed to self-ventilate in the event of a fire to avoid pressurization.

2.2.1.6 Bulk piles should not exceed 40 feet in height. Piles should be no higher than 36 inches below roof. Piles should not contact supporting beams or other related supporting structures.

2.2.1.7 Owners/operators of FGAN storage sites should ensure that facilities are in full compliance with applicable requirements of the Emergency Planning and Community Right to Know Act. 42 U.S.C. §§ 11001 – 11050.

2.2.1.8 Storage areas should be inspected regularly by an individual(s) trained to identify potential hazards and ensure that all safety control measures are being properly implemented. Any identified hazards should be addressed immediately.

2.2.2 Notification Warnings

2.2.2.1 Buildings and bins where FGAN is stored should be marked with a hazard rating “fire diamond” meeting the standards of NFPA 704. The NFPA fire diamond should be situated, with the concurrence of the authority having jurisdiction, where it is clearly visible to first responders, police, or other individuals attempting to access the area.

2.2.2.2 The contents of each bin should be clearly identified by the proper shipping name of the material, “AMMONIUM NITRATE” written in 2- inch high, capital letters below the NFPA fire diamond.

2.2.2.3 The NFPA diamond codes for FGAN are generally recognized to be:

- Health Hazard (Blue).....1
- Flammability (Red).....0
- Reactivity (Yellow).....3
- Other.....(OX)

2.2.2.4 Owners/operators should consult appropriate fire codes such as NFPA 400 (Chapter 11) for guidance regarding storage of FGAN.

3.0 SECURITY

3.1 Storage Facilities

3.1.1 Owners/operators must comply with applicable regulations promulgated by DHS at 6 C.F.R. Part 27 and the U.S. Coast Guard at 33 C.F.R. Part 105 as well as applicable state and local requirements.

3.1.2 The owner/operator should conduct a thorough site vulnerability assessment to identify gaps in FGAN security and develop and implement appropriate security control measures that will mitigate these security gaps. Considerations should be given to deter, to delay, to detect, and to respond to the identified potential security issues.

3.1.3 Access by visitors, service subcontractors, and third-party transporters should be approved by management.

3.1.4 All FGAN storage facilities should institute a system for accountability of bulk FGAN. Accurate inventory records and accounting for product shrinkage should be maintained.

3.1.4.1 Owners/operators of storage facilities should document and report unexplained losses, thefts, or otherwise unaccounted for shortages of FGAN to the local Joint Terrorism Task Force, as well as local law enforcement.

3.1.5 Report all suspicious behavior to an appropriate supervisor or, if unavailable, to local law enforcement.

3.1.6 Owners/operators should maintain regular communications with local law enforcement agency(ies) and should encourage regular patrols in the area of the facilities.

3.1.7 Owners/operators should institute a "KNOW YOUR CUSTOMER" program. Information should include (but not be limited to) sales records and statements of intended use of purchased FGAN. A record of this information should be retained for at least two (2) years.

3.1.8 Owners/operators should make provisions to prevent unauthorized persons from accessing the FGAN storage area.

4.0 TRANSPORTATION

4.1 Owners/operators must ensure that all transportation-related activities are in full compliance with applicable DOT hazardous materials requirements at 49 C.F.R. Parts 171-178.

4.1.1 As a Division 5.1 oxidizer, AN transport is regulated under DOT's 49 C.F.R. § 172.800 security regulations. Facilities must have a DOT security plan, including transportation security training for employees.

4.2 Truck

4.2.1 Motor carriers must comply with hazardous materials requirements at 49 C.F.R. Parts 177 and 397.

4.2.2 Motor carriers must maintain financial responsibility as required by 49 C.F.R. § 387.9.

4.2.3 Employee facility drivers should possess a current, state-issued commercial driver's license with a hazardous materials endorsement as required under 49 C.F.R. § 383.121. Employee facility drivers should have received hazardous materials training as required by 49 C.F.R. § 172.704.

4.2.4 The parking of vehicles under or near a bin for any purpose other than loading or unloading FGAN or necessary maintenance of the bin is prohibited. The engine of the power unit should be shut off while under a FGAN bin except as needed for loading or unloading operations. Wheel chocks should be used and the ignition key removed when loading or unloading FGAN from a bin when the vehicle is unattended. After loading is completed and loading equipment has been properly disconnected, the vehicle should immediately be moved to a location at least 50 feet from the bin.

4.2.5 Fork trucks, tractors, front-end loaders and other internal combustion powered equipment must not be permitted to remain unattended in a building where FGAN is stored.

4.2.6 Owners/operators should implement a Proof-of-Delivery program for all truck shipments (bulk or bagged) of FGAN.

4.3 Highway

4.3.1 Owners/operators should consider implementing relevant and appropriate voluntary Security Action Items recommended by the Transportation Security Administration for Tier 2 Highway Security-Sensitive Materials. Refer to: <http://www.tsa.gov/highway-security-sensitive-materials-hssm-security-action-items-sais>

4.4 Rail

4.4.1 Rail transporters must comply with applicable DOT hazardous materials regulations at 49 C.F.R. Part 174.

4.4.2 Rail cars should arrive at the rail siding with the shipper's security seals affixed to all top hatches and bottom gates.

4.4.3 All shipper seal serial numbers should be checked to ensure they match the bill of lading for the rail car. If any seal number is incorrect, the owner/operator should call the shipper. If any seal shows signs of tampering or unauthorized removal, the shipper and local law enforcement should be contacted immediately.

4.4.4 When a rail car containing other than residual amounts of AN is unattended and outside a secure area, the owner/operator should affix a padlock or other device to the door or gate to deter unauthorized opening of an unloading compartment.

4.4.5 If any shipper's security seal is removed from the top hatches of a rail car by the rail siding operator to gain access for any reason, the rail siding operator's security seal should be affixed to the hatch.

4.5 Barge

4.5.1 Owners/operators shipping FGAN by barge should comply with applicable provisions of 46 U.S.C. § 70103 for “certain dangerous cargo”.

REFERENCES

Agricultural Retailers Association, 1525 15th St. N.W., Washington, D.C. 20006, (202) 457-0825, www.aradc.org

The Fertilizer Institute, 425 Third St. SW, Suite 950, Washington, D.C. 20024, (202) 962-0490, www.tfi.org

U.S. Department of Labor, Occupational Safety and Health Administration, Washington, D.C., www.osha.gov

U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, Washington, D.C., www.dot.gov

Compliance Assistance Tool for Agricultural Retailers, Asmark Institute, Owensboro, Ky., www.asmark.org/ComplianceAssessmentTool



The
Fertilizer Institute

Nourish, Replenish, Grow

Environment and Public Works Committee Hearing
“Preventing Potential Chemical Threats and Improving Safety: Oversight of the
President’s Executive Order on Improving Chemical Facility Safety and Security”
March 6, 2014
Follow Up Questions and Answers
Submitted by Billy Pirkle (on behalf of The Fertilizer Institute)
April 17, 2014

Questions for Mr. Pirkle:

Question from Chairman Boxer

- 1) Q: Mr. Pirkle, I understand that The Fertilizer Institute supports amending the Emergency Planning and Community Right to Know Act (EPCRA) to remove the retail fertilizer exemption. I also understand that The Fertilizer Institute has called for the Department of Homeland Security to finalize its proposed rule on the traceability of ammonium nitrate fertilizer. Can you explain how the DHS ammonium nitrate traceability rule will generate information that can be used to enhance fertilizer plant safety? Are there any other changes to current law or regulations that you believe will enhance the safety of ammonium nitrate fertilizer?**

A: While the storage and handling of fertilizers at retail facilities are subject to numerous federal laws and regulations (in addition to state and local laws, regulations, and ordinances), TFI recognizes that there are existing opportunities to enhance current law and regulations to reduce the chances of another tragic incident like the one that occurred in West, Texas.

Specifically with regard to the U.S. Department of Homeland Security’s (DHS) Ammonium Nitrate Security Program (ANSP), TFI was a key proponent of the enabling legislation that granted DHS authority to enhance the security of facilities handling AN, and has coordinated with DHS during its ongoing rulemaking to create a nation-wide ANSP. In addition, TFI supported DHS’s CFATS efforts, including the inclusion of fertilizer grade AN. While these regulations are focused on the security of fertilizer grade AN, we believe that they will also enhance the safety of the product from supplier to retailer. Once the ANSP is established, it will provide a national database of all persons that handle fertilizer grade AN. This is important because it would allow DHS to work collaboratively with other agencies such as EPA and OSHA to identify the locations that handle AN. This would assist agencies with better compliance assistance and enforcement capabilities for both security and safety. For example, at an April 2013 hearing before the House Committee on Homeland Security, DHS

Capitol View
425 Third Street, S.W., Suite 950
Washington, DC 20024

202.962.0490
202.962.0577 fax
www.tfi.org

Secretary Janet Napolitano testified that DHS was unaware that the West Fertilizer Co. facility existed. It has since been determined that the facility was required by law to submit a "top-screen" under the CFATS program.

In addition to the ANSP, TFI has made additional recommendations to update existing law and regulations in the comments submitted to Interagency Working Group's "Solicitation of Public

Input on Options for Policy, Regulation, and Standards of Modernization" Regarding Executive Order 13650. For your reference, I have enclosed a copy of those comments.

Questions from Ranking Member Vitter

- 1) Q: Mr. Pirkle, since the explosion in West, Texas there have been extensive discussion on the safe handling and storage of ammonium nitrate. Has The Fertilizer Institute done anything to address storage and handling issues in order to prevent another incident like what happened in West?**

A: On behalf of The Fertilizer Institute and its members, I would like to again express our thoughts and prayers to the families impacted by the tragedy in West, Texas as they continue working to rebuild their community.

Shortly after the West Fertilizer Company's incident that occurred on April 17, 2013, TFI began implementing a number of steps to help strengthen the safe and secure management of ammonium nitrate (AN) at fertilizer facilities.

- TFI has co-established the independent, not-for-profit "ResponsibleAg" organization, which creates a comprehensive inspection/audit mechanism to help ensure that fertilizer facilities comply with the numerous existing regulations that already are applicable to the industry.
- TFI co-developed modernized "Safety & Security Guidelines for the Storage and Transportation of Fertilizer Grade Ammonium Nitrate at Fertilizer Retail Facilities" that are specifically directed toward AN retailers.
- TFI has been an active participant in the Executive Order 13650 Interagency Working Group's (WG) efforts, participating and testifying during the November 15, 2013, WG Listening Session in Washington, D.C. For your reference, I have enclosed a copy of comments TFI submitted to Interagency Working Group's "Solicitation of Public Input on Options for Policy, Regulation, and Standards of Modernization" Regarding Executive Order 13650.
- TFI recently was selected by OSHA as a partner to help make TFI members aware of legal requirements, best practice recommendations, standards, and guidelines that could help improve safety at fertilizer facilities in the near term.
- TFI has been actively supporting Congressional legislation to maintain agency funding for necessary security programs.

- TFI has been actively participating on the National Fire Protection Association (NFPA) Technical Committee on Hazardous Chemicals, and working to reform and update the NFPA's current rules related to AN to anticipate and prevent potential hazards.

2) **Q: Throughout the testimony we have heard a number of regulations that your industry and similar industries face as well as extensive recommended and industry developed best practices. In your view, if the existing federal regulations had been complied with, do you believe the explosion in West, Texas could have been avoided?**

A: While the Chemical Safety Board (CSB) and other agencies continue to investigate the cause(s) of the tragic incident that occurred in West, Texas, TFI believes that if the West Fertilizer Co. had been in compliance with existing federal regulations, the incident could likely have been mitigated or prevented. For your reference, enclosed please find copy of the Asmark Institute's Compliance Assessment Tool questions. This 32-page list consists of all federal regulations that apply to an agricultural retail facility. Following the incident in West, Texas, TFI, along with the Agricultural Retailers Association, made this tool available to all of their members free of charge. In addition, the tool was distributed to affiliated state associations to reach the broadest audience possible.

3) **Q: Mr. Pirkle, in your testimony you mention the "myriad of federal agencies that regulate" your industry and the "complex maze of federal regulations" that create a real challenge for your industry to navigate. Would new regulations potentially exacerbate that problem and make compliance even more difficult for some retailers?**

A: Yes, new regulations certainly have the potential to create additional confusion and challenges for fertilizer retail facilities to ensure compliance. However, in an effort to be proactive and further educate the industry about current federal regulations, TFI and its membership have started to implement several important voluntary initiatives.

First, TFI recently co-established the independent "ResponsibleAg" organization with the Agricultural Retailers Association ("ARA"). Under ResponsibleAg, retail fertilizer dealerships will enroll in the program and be subject to comprehensive inspections based on federal regulatory requirements. The inspections will be carried out by trained auditors who will have completed an intensive training course at the Asmark Institute — a private, not-for-profit organization that serves as a leading national resource center for compliance materials and services. We appreciate the support we received from the Committee for the ResponsibleAg initiative at the hearing on March 6.

Auditors will have to undergo annual continuing education as a condition of maintaining their credentials, and each participating facility will receive an assessment by a credentialed auditor every three years. Facilities that successfully complete the audit process will be recognized for

having done so. On the other hand, sites that do not successfully complete an audit will be provided a facility-specific list of recommended corrective actions. Additionally, random quality assurance reviews to verify the assessments will be conducted by third party auditors.

Membership in TFI, ARA, or any other organization is not a requirement for participation in ResponsibleAg — this novel, comprehensive inspection and audit organization will be available to all fertilizer retail facilities nationwide. TFI and ARA estimate that there are about 3,000 retailers who handle AN and/or anhydrous ammonia, and anticipate that a significant percentage of those will participate in ResponsibleAg. At a minimum, ResponsibleAg will help ensure that whether small or large, fertilizer retail facilities have access to the latest information on regulatory compliance. Further, the audit history of specific facilities will show their track record of complying with applicable requirements, as well as the potential need for corrective action. TFI is confident that ResponsibleAg will help fertilizer facilities verify compliance with greater accuracy, speed, and regularity than is currently being done by the multitude of federal agencies that regulate the nation's fertilizer retailers. Thus, TFI and ARA have voluntarily contributed the necessary startup capital to establish and fund this organization. TFI believes that the ResponsibleAg program is directly in line with the efforts and objectives of the WG and the EO, namely helping to assure the safe storage and handling of these products.

In a second endeavor to improve safety and security of AN, TFI and the ARA have developed modernized "Safety & Security Guidelines for the Storage and Transportation of Fertilizer Grade Ammonium Nitrate at Fertilizer Retail Facilities" ("FGAN Guidelines") that are specifically directed toward AN retailers. Given the pressing need to provide approachable, self-implementing compliance tools to owners, operators, and managers at such small entities — and to preempt the time lag traditionally associated with agency rulemakings, enforcement, and even voluntary third party audits — the FGAN Guidelines present a condensed overview of the rules, best practices, and procedures that all fertilizer retail facilities should know if they sell AN fertilizer products. TFI already has made the FGAN Guidelines available to OSHA. Beyond outlining the storage and transportation rules that already apply to AN, the FGAN Guidelines offer guidance for facility-level planning activities, security and access controls, internal inspections, and other topics (*e.g.*, important electrical, vehicular, and structural safety issues) that are associated with routine handling of AN products in a retail setting. TFI plans to work with its members and other stakeholders in the fertilizer industry to disseminate the FGAN Guidelines expeditiously to fertilizer retailers across the nation, consistent with TFI's longstanding efforts in this field.

Acknowledgement and public support of these efforts (whether formal or informal) by any of the WG's component agencies would help TFI and ARA urge fertilizer retail facilities to review and enhance their compliance efforts internally while the federal process initiated by the EO matures during 2014. For example, the WG could bolster these efforts by promoting special recognition of fertilizer companies that successfully comply with ResponsibleAg and the FGAN Guidelines for purposes of OSHA compliance. Specifically — much like OSHA's Voluntary Protection

Program ("VPP") officially recognizes the exemplary safety and health performance of specific work sites that have gone "above and beyond" minimum OSHA requirements — the WG should encourage its agencies to grant special recognition to businesses that successfully comply in all respects with these voluntary efforts.

Sincerely,

A handwritten signature in cursive script that reads "Billy Pirkle". The signature is written in black ink and is positioned below the word "Sincerely,".

Billy Pirkle on behalf of The Fertilizer Institute

Enclosures (2)

**Asmark Institute
Compliance Assessment Tool Questions**

Air Compressor(s)	Citation: 29 CFR 1910.169(a)(2)(i)
Question: Air compressor(s) meet ASME code and all accessories (relief valve, drain valve and pressure gauge) are maintained in safe operating condition? 1174	
Air Quality Permit	Citation: 40 CFR Parts 50-99
Question: Is this facility currently required to be permitted under any State or Federal air quality program? 1338	
Air Tank, Portable	Citation: ASME Boiler and Pressure Vessel Code
Question: Ensured each portable air tank currently in use is within the manufacturer's stamped life expectancy date and in safe working condition? 1316	
All Terrain Vehicle (ATV), Training (BMP)	Citation: BMP
Question: Provided All-Terrain Vehicle (ATV) training initially for new employees and periodically thereafter? 1329	
Ammonium Nitrate Storage	Citation: NFPA 400
Question: Ensured all ammonium nitrate is stored according to NFPA standards? 1341	
Ammonium Nitrate Storage	Citation: 29 CFR 1910.109(i)(1)(i)
Question: Ensured all ammonium nitrate is stored according to OSHA standards? 1342	
Anhydrous Ammonia Storage Tank Inspection (BMP)	Citation: BMP
Question: Ensured an annual visual inspection of each storage tank in use for anhydrous ammonia service has been conducted by qualified personnel on-site, documented in writing and maintained on file? 1185	
Anhydrous Ammonia Training	Citation: 29 CFR 1910.111(b)(13)(ii)
Question: Provided anhydrous ammonia training initially for new employees who perform unloading operations and annually thereafter? 1051	
Animal Health Products, Feed & Feed Ingredients	Citation: 21 CFR Part 500
Question: Ensured all animal health products, feed and feed ingredients are manufactured, stored and handled in accordance with FDA guidelines and requirements? 1269	
Annual Anhydrous Ammonia Tank Inspection (BMP)	Citation: BMP
Question: Ensured an annual visual inspection of each nurse tank and applicator tank in use for anhydrous ammonia service has been conducted by qualified personnel on-site, documented in writing and maintained on file? 1201	

Aqua Ammonia Storage Tank Inspection (BMP)	Citation: BMP
Question: 1288 Ensured an annual visual inspection of each storage tank in use for aqua ammonia service has been conducted by qualified personnel on-site, documented in writing and maintained on file?	
Backflow Prevention, Inspection of RPZ Valve	Citation: Plumbing Code
Question: 1166 Ensured a licensed plumber inspected, and documented each RPZ valve used as backflow protection for a public water or well supply connection annually?	
Backflow Protection	Citation: 40 CFR 142.62 & 29 CFR 1910.141(b)(2)(ii)
Question: 1165 Ensured each public water and well supply connection is protected with backflow protection device(s) that prevents backsiphonage/backflow?	
Bloodborne Pathogens Program	Citation: 29 CFR 1910.1030 (c)(1)(i)
Question: 1154 Developed and implemented a written Bloodborne Pathogens program?	
Bloodborne Pathogens Training	Citation: 29 CFR 1910.1030(g)
Question: 1017 Provided bloodborne pathogens training initially for new employees and annually thereafter?	
Boiler, Annual Inspection	Citation: ASME Boiler and Pressure Vessel Code
Question: 1340 Ensured all pressure vessels used for boilers are inspected annually with proper documentation maintained on file?	
Break-A-Way, Anhydrous Ammonia Toolbars	Citation: ANSI K61.1-1989 12.3.5
Question: 1206 Ensured automatic emergency break-a-way, self-closing coupling devices have been installed as required between the toolbar and the nurse tank or applicator tank?	
Bulkhead Protection, Anhydrous Ammonia Facilities	Citation: ANSI K 61.1-1999 5.10.8.1
Question: 1195 Ensured a properly constructed bulkhead (or equivalent anchorage, weakness or shear fitting) has been installed at all tank unloading areas?	
CFATS Status, DHS	Citation: 6 CFR 27.210(i)(i) & (d)
Question: 1146 Initially reviewed the chemicals listed in Appendix A to determine if registration with DHS was required, and now systematically monitors current inventory and operations for changes requiring DHS rules?	
Child Labor	Citation: 29 CFR 570.2
Question: 1322 Ensured any employment for work use of children with an age of 18 or less at this facility is within the requirements of the Child Labor Regulations?	
Color-Coding, Anhydrous Ammonia Valves & Piping	Citation: ANSI Z53.1-1967
Question: 1191 Ensured all tank valves and piping used in conjunction with storage tanks of anhydrous ammonia have been color-coded using contrasting colors, and applied in a consistent manner?	

Compressed Gas Cylinder Storage	Citation: CGA P-1-2006 (3.4.1) & 29 CFR 1910.101(b)
Question: Ensured all compressed gas cylinders are stored in upright positions and immobilized by chains or other means to prevent them from being knocked over?	
1044	
Confined Space Entry Annual Review	Citation: 29 CFR 1910.146(d)(14)
Question: Conducted an annual review of the confined space program and canceled permits?	
1039	
Confined Space Entry Program	Citation: 29 CFR 1910.146(c)(4)
Question: Developed and implemented a written confined space entry program?	
1038	
Confined Space Entry Training	Citation: 29 CFR 1910.146(g)
Question: Provided confined space entry training initially for new employees and annually thereafter?	
1040	
Confined Space Entry, Rescue Arrangements	Citation: 29 CFR 1910.146(d)
Question: Pre-arranged and documented, the qualifications, capabilities and arrangements, between this facility and the fire department or rescue squad for rescuing entrants to permit-required confined spaces?	
1147	
Confined Spaces Labeled	Citation: 29 CFR 1910.146(c)(2 & 3)
Question: Labeled all confined spaces with a sign or decal?	
1042	
Containment Areas, Drains Prohibited	Citation: 40 CFR 165.85 & 87
Question: Ensured all discharge outlets and gravity drains have been properly sealed and removed from use?	
1242	
Containment Areas, Repair & Maintenance	Citation: 40 CFR 165.90(b)(2) & (3)
Question: Repaired all containment structures within a reasonable time frame?	
1241	
Containment, Operational for Agrichemicals	Citation: 40 CFR 165.82 & 97
Question: Provided and utilizes operational containment for agrichemicals, maintained in good operating condition, and of adequate size, capacity and construction to comply with state and federal containment rules?	
1061	
Containment, Operational for Dry Fertilizer (BMP)	Citation: BMP
Question: Provided and utilizes operational containment for dry fertilizer, maintained in good operating condition and of adequate size, capacity and construction to prevent product from reaching uncontained areas?	
1282	
Containment, Secondary for Agrichemicals	Citation: 40 CFR 165.81 & 97
Question: Provided and utilizes secondary containment for agrichemicals, maintained in good operating condition, and of adequate size, capacity and construction to comply with state and federal containment rules?	
1060	

Containment, Secondary for Bulk Fuel	Citation: 29 CFR 1910.106(b)(2)(vii)(a), UFC 79.507(a)
Question: 1230	Provided and utilizes secondary containment for fuel(s), maintained in good operating condition, and of adequate size, capacity and construction to comply with state and federal containment rules?
Converter, Aqua Ammonia (BMP)	Citation: State-Specific
Question: 1296	Ensured the operation of converting aqua ammonia is conducted safely observing all established State setback distances and rules preventing bleeding of lines and hoses into the atmosphere when disconnecting?
CPR Training	Citation: 29 CFR 1910.146(k)(2)(iii)
Question: 1112	Provided cardiopulmonary resuscitation (CPR) training, in addition to First Aid training for employees designated to provide permit-required confined space rescue and emergency services?
Cross-Contamination Prevention (BMP)	Citation: BMP
Question: 1324	Ensured each configuration of plumbing used to transfer pesticide-laden product has been reviewed periodically for the potential to produce cross-contamination of materials prior to, during or following being transferred?
Custom Application Vehicle (CAV), Training (BMP)	Citation: BMP
Question: 1271	Provided custom application vehicle (CAV) training initially for new employees and periodically thereafter?
Custom Application Vehicle Inspection (BMP)	Citation: BMP
Question: 1273	Ensured that all custom application vehicles (CAV) are maintained in safe operating condition and inspected before being placed in service?
Custom Application Vehicle, Operator Evaluation(BMP)	Citation: BMP
Question: 1272	Conducted an evaluation of each operator of a custom application vehicle (CAV) initially for new employees and every three years thereafter?
Custom Application Vehicle, Seatbelts (BMP)	Citation: BMP
Question: 1274	Ensured employees use their seat belt every time they operate a custom application vehicle (CAV) equipped with seat belts?
Damaged, Leaking or Obsolete Materials	Citation: BMP
Question: 1244	Ensured product that is damaged, leaking or obsolete has been identified promptly, segregated, contained and placed in overpack containers to await use or disposal?
Data Plates, ASME for Nurse & Applicator Tanks	Citation: 49 CFR 173.315(m)
Question: 1070	Ensured all nurse wagons and applicator tanks used to transport anhydrous ammonia are equipped with a legible ASME data plate or marked with a DOT SP-13554 decal?
Data Plates, ASME for Steam Boilers	Citation: ASME Boiler and Pressure Vessel Code
Question: 1284	Ensured all pressure vessels used for boilers are equipped with a legible ASME data plate?

Data Plates, ASME for Storage Tanks	Citation: ASME Boiler and Pressure Vessel Code
Question: Ensured all storage tanks used for anhydrous ammonia are equipped with a legible ASME data plate? 1283	
Defensive Driving Awareness Training (BMP)	Citation: BMP
Question: Provided defensive driving awareness training periodically for all employees that drive company vehicles? 1262	
Defensive Driving Structured Training (BMP)	Citation: BMP
Question: Provided defensive driving training using an organized, structured course such as the National Safety Council's (DDC-4), or comparable course periodically for all employees that drive company vehicles? 1317	
Defensive Driving Training, Tank Truck Drivers (BMP)	Citation: BMP
Question: Provided defensive driving training initially for new employees that drives tank trucks carrying liquid cargo subject to momentum and movement during the course of routine transportation? 1330	
Driver Qualification File	Citation: 49 CFR 391.51(a)
Question: Produced and maintains a current driver qualification file on each driver utilized? 1020	
Driver Qualification File, Annual Review	Citation: 49 CFR 391.25
Question: Performed an annual review of the driver qualification file for each driver utilized? 1022	
Driver Qualification File, Preemployment Drug Test	Citation: 49 CFR 382.301
Question: Ensured each driver has obtained a pre-employment DOT drug test prior to driving a commercial motor vehicle or performing a safety-sensitive function? 1024	
Driver Qualification File, Previous Employment	Citation: 49 CFR 391.23 & 21
Question: Obtained and documented previous employer inquiries for each driver utilized? 1023	
Driver Qualification File, Random Drug Test	Citation: 49 CFR 382.305
Question: Ensured each driver has been enrolled in a DOT approved random drug testing program? 1025	
Drug & Alcohol Training for Supervisors	Citation: 49 CFR 382.603
Question: Provided two hours Drug & Alcohol training for those employees who supervise drivers? 1026	
Dust Socks & Weather Covers (BMP)	Citation: BMP
Question: Ensured dust socks, weather covers or other effective mechanical improvements have been installed to prevent spillage or unintended loss of dry fertilizer materials to uncontained areas? 1073	

Electrical Awareness Training (All Employees)	Citation: 29 CFR 1910.332(a) & (b)(2)
Question: Provided electrical safety training for all employees that are not qualified and not assigned to repair electrical equipment, but may come in contact with electricity while carrying out their normal duties?	
1267	
Electrical Hand Tools	Citation: 29 CFR 1910.303
Question: Ensured all electrical hand tools, cords and plugs are properly grounded and free of recognizable hazards?	
1096	
Electrical Inspection or Audit (BMP)	Citation: BMP
Question: Ensured a comprehensive electrical inspection or audit to identify potential safety and fire hazards has been completed within the last 10 years by a licensed electrician?	
1148	
Electrical Outlets	Citation: 29 CFR 1910.305(b)(2)
Question: Ensured all electrical outlets are properly covered and grounded?	
1007	
Electrical Panel & Circuits, Marking	Citation: 29 CFR 1910.303(e & f) & 305(b)
Question: Marked and labeled all electrical panels and circuit breakers?	
1006	
Electrical Safety Training for Qualified Persons	Citation: 29 CFR 1910.332(a) & (b)(2) & NFPA 70E 110.6
Question: Provided electrical safety training for employees that are considered "qualified" and who may come in contact with electricity while carrying out their assigned duties or may face comparable risk of injury due to electric shock?	
1036	
Electrical, Extension Cords	Citation: 29 CFR 1910.305(g)(1)
Question: Ensured all extension cords are free of splices, defects or exposed wiring and are properly grounded and maintained in safe operating condition?	
1175	
Electrical, Ground-Fault Circuit Interrupter	Citation: NEC Section 547.5(C)(2) & 547.5(G)
Question: Ensured Ground-Fault Circuit Interrupters (GFCI) and waterproof boxes have been installed in all required applications that are exposed to moisture?	
1149	
Electrical, Requirements Regarding Fuel Storage	Citation: 29 CFR 1910.307(b)
Question: Ensured no electrical receptacles or equipment is constructed within 25 feet of bulk fuel storage unless explosion-proof equipment and metal conduit is installed in a permanent manner?	
1176	
Elevated Storage Areas	Citation: 29 CFR 1910.22(d)(1)
Question: Marked all elevated storage with storage load/capacity not to exceed?	
1037	
Emergency Action Plan	Citation: 29 CFR 1910.272(d)
Question: Developed and implemented a written emergency action plan?	
1245	

Emergency Response Information, DOT	Citation: 49 CFR 172.600-602
Question: Ensured a current Emergency Response Guidebook (ERG), MSDS or other form of emergency response information accompanies all shipments of hazardous materials?	1124
Emergency Response Plan	Citation: 29 CFR 1910.120(q)(1)
Question: Developed and maintains a current written emergency response plan?	1009
Emergency Response Telephone Number, 24-Hr (DOT)	Citation: 49 CFR 172.604
Question: Contracted for, or otherwise provided a 24-hour emergency response phone number for use on hazardous materials shipping papers?	1123
Emergency Spill Kit	Citation: 29 CFR 1910.120(g)
Question: Prepared an emergency spill kit with absorbents, PPE and other equipment necessary for employees to safely respond to spills of hazardous substances?	1046
Emergency Warning Devices, DOT	Citation: 49 CFR 393.95(f)
Question: Provided three emergency warning devices such as reflective triangles in the power unit of all commercial motor vehicles?	1031
Equipment Specifications, Anhydrous Ammonia	Citation: BMP
Question: Ensured all equipment such as storage tanks, piping, hose, valves, meters, scales, vents, filters, etc. are designed and constructed for use with anhydrous ammonia, and properly utilized by employees?	1304
Equipment Specifications, Aqua Ammonia	Citation: BMP
Question: Ensured all equipment such as storage tanks, piping, hose, valves, meters, scales, vents, filters, etc. are designed and constructed for use with aqua ammonia, and properly utilized by employees?	1305
Equipment Specifications, Bulk Fumigants	Citation: BMP
Question: Ensured all equipment such as storage tanks, piping, hose, valves, meters, scales, vents, filters, etc. are designed and constructed for use with bulk fumigants handled, and properly utilized by employees?	1299
Equipment Specifications, Bulk Liquid Fertilizer(s)	Citation: BMP
Question: Ensured all equipment such as storage tanks, piping, hose, valves, meters, scales, vents, filters, etc. are designed and constructed for use with bulk liquid fertilizers handled, and properly utilized by employees?	1301
Equipment Specifications, Bulk LP-Gas/Propane	Citation: BMP
Question: Ensured all equipment such as storage tanks, piping, hose, valves, meters, scales, vents, filters, etc. are designed and constructed for use with bulk LP-Gas/Propane, and properly utilized by employees?	1303
Equipment Specifications, Bulk Pesticides	Citation: BMP
Question: Ensured all equipment such as storage tanks, piping, hose, valves, meters, scales, vents, filters, etc. are designed and constructed for use with bulk pesticides handled, and properly utilized by employees?	1300

Equipment Specifications, Bulk Petroleum Products	Citation: BMP
Question: Ensured all equipment such as storage tanks, piping, hose, valves, meters, scales, vents, filters, etc. are designed and constructed for use with bulk petroleum products handled, and properly utilized by employees?	
1302	
Extension Cords, Temporary Use	Citation: 29 CFR 1910.305(g)(1)(iii)(a)
Question: Ensured extension cords are not being used as a substitute for fixed electrical wiring?	
1033	
Facility Vulnerability Assessment, USDA	Citation: UGRSA, CCC-25, Part III, O
Question: Ensured a facility vulnerability assessment was developed and implemented at this facility as required for operators of grain warehouses?	
1277	
Fall Arrest, Personal Protection	Citation: 29 CFR 1910.66 Appendix C/29 CFR 1910.26 Subpart
Question: Ensured all employees working at elevated heights with an unprotected side or edge more than 4 feet have been equipped with personal fall arrest protection, trained on the proper use and inspection of the system?	
1287	
Fire Extinguishers, Commercial Motor Vehicles	Citation: 49 CFR 393.95(a)(1)
Question: Provided 10 B:C or larger fire extinguishers in the power unit of all commercial motor vehicles?	
1030	
Fire Extinguishers, Inspection	Citation: 29 CFR 1910.157(e)(1-3)
Question: Provided for monthly and annual inspections of each fire extinguisher?	
1111	
Fire Extinguishers, Training	Citation: 29 CFR 1910.157(g)
Question: Provided fire extinguisher training initially for new employees and annually thereafter?	
1035	
Fire Extinguishers, Workplace	Citation: 29 CFR 1910.157(c)(1)
Question: Provided readily accessible fire extinguishers throughout the workplace?	
1034	
Fire Prevention Plan	Citation: 29 CFR 1910.39(b)
Question: Ensured the facility has effectively pre-planned for a fire to save lives, preserve property and reduce the impact on the environment?	
1102	
First Aid Kit	Citation: 29 CFR 1910.151(b)
Question: Provided First Aid Kit(s) for use by employees that are physician-approved, adequately stocked and readily available?	
1003	
First Aid Training	Citation: 29 CFR 1910.151(b)
Question: Provided First-Aid training to those employees who are expected to respond to medical emergencies?	
1045	

Flammable Liquids, Storage of Containers	Citation: 29 CFR 1910.106(e)(2)(ii)(b)
Question: Ensured an approved cabinet is utilized for quantities of flammable liquids exceeding 25 gallons of Class 1A liquids in containers? 1169	
Forklift Training	Citation: 29 CFR 1910.178(l)(1)(i)
Question: Provided forklift, end loader or powered industrial truck training initially for new employees and annually thereafter? 1032	
Forklift, Operable Horn	Citation: 29 CFR 1910.178(n)(4)
Question: Ensured that each forklift is equipped with an operable horn? 1214	
Forklift, Operator Evaluation	Citation: 29 CFR 1910.178(l)(4)(iii)
Question: Conducted an evaluation of each operator of a forklift, end loader or powered industrial truck initially for new employees and every three years thereafter? 1106	
Forklift, PIT Inspection & Maintenance	Citation: 29 CFR 1910.178(q)(1) & (7)
Question: Ensured that all forklifts, end loaders and powered industrial trucks (PIT) are maintained in safe operating condition and inspected before being placed in service? 1213	
Forklift, Seatbelts	Citation: 29 CFR 1910.178(q)(6)
Question: Ensured employees use their seat belt every time they operate a forklift equipped with seat belts? 1215	
Forklift, Worker Lift Platforms	Citation: 29 CFR 1910.23(c)(1) & CFR 1926.501(b)(1)
Question: Ensured a lift platform, designed and constructed to OSHA/ANSI specifications, is used in conjunction with a forklift to safely lift workers? 1216	
Fumigants, Use of Charcoal Filters	Citation: BMP
Question: Ensured all transfers of fumigant pesticides include a charcoal filter utilized each time the activity of bleeding-off of material trapped in the lines occur? 1306	
Gas, Portable Containers	Citation: 29 CFR 1910.106(a)(29)
Question: Ensured all portable gas cans are 5 gallons or less in capacity with a spring-closing lid and is safety rated and UL approved? 1099	
GMO Seed, Storage & Segregation	Citation: BMP
Question: Ensured all Genetically-Modified (GMO) seed(s) is properly labeled and segregated from Non-GMO seed(s) during all storage and transfer activities? 1323	
Grain Handling Training	Citation: 29 CFR 1910.272(e)(1)
Question: Provided training on grain handling issues initially for new employees and whenever changes in job assignment will expose them to new hazard? 1246	

Grain Handling, Engulfment Hazards	Citation: 29 CFR 1910.272(g)(2)
Question: Provided a body harness with lifeline or a boatswain's chair for any employee that enters a grain storage structure from a level at or above the level of the stored grain or works in/on stored grain of a depth that poses an engulfment hazard? 1247	
Grain Handling, Facility Inspections	Citation: 29 CFR 1910.272(m)(3)
Question: Ensured regular inspections have been performed, documented and maintained on file for at least the mechanical and safety control equipment associated with dryers, grain stream processing equipment, dust collection equipment, and bucket elevators? 1249	
Grain Handling, Housekeeping Program	Citation: 29 CFR 1910.272(j)(1)
Question: Developed and implemented a written housekeeping program to reduce accumulations of fugitive grain dust on ledges, floors, equipment, and other exposed surfaces? 1248	
Grain Handling, Preventative Maintenance Procedures	Citation: 29 CFR 1910.272(m)
Question: Ensured regular inspections have been performed and maintained on file to sufficiently document the facility's implementation of preventative maintenance procedures? 1331	
Ground, Sufficient Earth (BMP)	Citation: BMP
Question: Installed and periodically inspected the ground to earth rod system to ensure it is sufficient in size and condition to dissipate the electrical surges that result from direct lightning strikes? 1307	
Guarding and Clearances, Grinders	Citation: 29 CFR 1910.215(a)(2)
Question: Ensured all grinders have adequate safety guarding and machine rest clearances? 1095	
Guarding of Tanks, Anhydrous Ammonia	Citation: 29 CFR 1910.111(c)(7) & ANSI K61.1-1989 6.7.1
Question: Ensured each stationary storage tank used for anhydrous ammonia is protected by suitable barriers to prevent damage by trucks or other vehicles? 1063	
Guarding of Tanks, Fuel Storage	Citation: NFPA 30A 4.3.7.1 - 4.3.7.2
Question: Ensured each stationary storage tank used for bulk fuel storage and dispensing is protected by suitable barriers to prevent damage by trucks or other vehicles? 1177	
Guarding of Tanks, LP-Gas	Citation: 29 CFR 1910.110(d)(10)
Question: Ensured each stationary storage tank used for LP-Gas is protected by suitable barriers to prevent damage by trucks or other vehicles? 1125	
Guarding, Belts & Couplings	Citation: 29 CFR 1910.212(a)(1)
Question: Ensured protective guards have been installed and maintained in safe operating condition on four sides of all shop equipment with a belt, chain or shaft drive, or rotating blade/stone? 1173	
Guarding, PTO Shafts	Citation: 29 CFR 1910.212(a)(1)
Question: Ensured all towed equipment with PTO shafts, drive belts, drive chains and gears are properly guarded and maintained in safe operating condition? 1205	

Guarding, Shaft & Gear Machinery	Citation: 29 CFR 1910.219(c)(2)(i)
Question: Ensured protective guards have been installed and maintained in safe operating condition on four sides of all machinery equipped with shafts and gears?	
1072	
Hazard Communication Program	Citation: 29 CFR 1910.1200(a)(2)
Question: Developed and implemented a written hazard communication program?	
1010	
Hazard Communication Training	Citation: 29 CFR 1910.1200(h)(2)
Question: Provided hazard communication training initially for new employees and whenever a new hazard is introduced into the workplace?	
1004	
Hazard Communication, Labeling Bins & Containers	Citation: 29 CFR 1910.1200(f)(5)(i)
Question: Ensured all bays, bins, tanks and containers have been properly labeled in accordance with the hazard communication standard?	
1041	
Hazardous Materials Registration	Citation: 49 CFR & 107.620
Question: Registration is current with DOT and copies of the Hazardous Materials Registration have been placed in each vehicle?	
1071	
Hazardous Materials Training, DOT	Citation: 49 CFR 172.700-704(a)(1-3)
Question: Provided DOT hazardous materials training (also known as HM-126f) initially for new employees and every three years thereafter?	
1052	
Hazardous Materials, Financial Responsibility	Citation: 49 CFR 387.7 & 9
Question: Ensured this motor carrier has obtained, and maintains in full force, the minimum level of financial responsibility (insurance) in relation to its scope of operation, vehicles utilized and cargo transported?	
1298	
Hazardous Materials, Safety Permits	Citation: 49 CFR 385.1
Question: Ensured a current Safety Permit has been issued to this company authorizing the transportation of shipments of hazardous materials in regulated quantities, such as 3,500 gallons of anhydrous ammonia?	
1297	
Hazardous Waste, Registration	Citation: 40 CFR 262.12(a)
Question: Ensured this establishment has been registered with the appropriate state agency governing the storage, timing, transporting, reporting and other requirements related to the generation of hazardous waste(s)?	
1153	
Hazardous Waste, Storage & Handling	Citation: 40 CFR 262
Question: Ensured all known hazardous wastes are identified, labeled, stored, transported and disposed of in accordance with all applicable state and federal requirements?	
1218	
HazWoper Refresher Training	Citation: 29 CFR 1910.120(q)(8)(i)
Question: Provided emergency response (HazWoper) refresher training to employees who have already completed the initial training requirements and are expected to respond to spills or other emergencies with potential exposure to hazardous substances?	
1120	

HazWoper Training	Citation: 29 CFR 1910.120(e)(7) & (q)(6)
Question: Provided emergency response (HazWoper) training to employees expected to respond to spills or other emergencies with the potential exposure to hazardous substances?	
1018	

Hearing Conservation Program	Citation: 29 CFR 1910.95(c)
Question: Ensured the facility has been evaluated for the requirements of a Hearing Conservation program, and developed a written program with training or provided adequate hearing protection equipment, as appropriate?	
1161	

Historical: Affected by Neighboring Property	Citation: Base Question
Question: Has this facility been subject to environmental issues originating from a neighboring property in the past three years?	
1133	

Historical: Date Operations Began 1961 to 1970	Citation: Base Question
Question: This facility first began operations at this location between 1961 and 1970?	
1136	

Historical: Date Operations Began 1971 to 1980	Citation: Base Question
Question: This facility first began operations at this location between 1971 and 1980?	
1137	

Historical: Date Operations Began 1981 to 1990	Citation: Base Question
Question: This facility first began operations at this location between 1981 and 1990?	
1138	

Historical: Date Operations Began 1991 to 2000	Citation: Base Question
Question: This facility first began operations at this location between 1991 and 2000?	
1139	

Historical: Date Operations Began 2001 to 2010	Citation: Base Question
Question: This facility first began operations at this location between 2001 and 2010?	
1140	

Historical: Date Operations Began 2010 to 2020	Citation: Base Question
Question: This facility first began operations at this location between 2010 and 2020?	
1141	

Historical: Date Operations Began before 1961	Citation: Base Question
Question: This facility first began operations at this location before 1960?	
1135	

Historical: Fire(s)	Citation: Base Question
Question: Has this facility had a structural fire occur on-site in the past three years?	
1134	

Historical: Notice of Violations	Citation: Base Question
Question: Has this facility received an official Notice of Violation from a regulatory agency in the past three years?	
1131	
Historical: Open Burning	Citation: Base Question
Question: Has this facility conducted opening burning on-site in the past three years?	
1252	
Historical: Poor Neighbor Relations	Citation: Base Question
Question: Has this facility received an official complaint from a neighbor in the past three years?	
1130	
Historical: Site Condition - Buried Materials	Citation: Base Question
Question: Is there any knowledge or evidence of any materials buried on-site?	
1268	
Historical: Site Condition - Dead Vegetation	Citation: Base Question
Question: Is there visual evidence vegetation is obviously dead or missing from areas on-site?	
1144	
Historical: Site Condition - Staining	Citation: Base Question
Question: Is there visual evidence of any stained concrete, rock or soil on-site?	
1142	
Historical: Site Condition - Stressed Vegetation	Citation: Base Question
Question: Is there visual evidence of any stressed vegetation on-site?	
1143	
Historical: Spill(s) or Release(s)	Citation: Base Question
Question: Has this facility had a reportable spill or release on-site in the past three years?	
1132	
Historical: Theft, Vandalism, Loitering or Pilfering	Citation: Base Question
Question: Has this facility been subject to ongoing occurrences of theft, vandalism, loitering or pilfering in the past three years?	
1314	
Hoist & Crane Capacity	Citation: 29 CFR 1910.179(b)(5)
Question: Marked all hoists/cranes with rated load/capacity on each side and ensured the lifting hook is equipped with a safety clip?	
1100	
Hose, Approved for Service (Anhydrous Ammonia)	Citation: 29 CFR 1910.111(b)(8) & ANSI K 61.1-1989 5.7
Question: Ensured each transfer hose currently in use for anhydrous ammonia service is designed and approved for ammonia service?	
1183	

Hose, Approved for Service (LP-Gas)	Citation: NFPA 58,2-4.6.3
Question: Ensured each transfer hose currently in use for LP-Gas service is designed and approved for LP-Gas service? 1178	
Hot Work Program	Citation: 29 CFR 1910.252(a)(2)(iv)
Question: Developed and implemented a written Hot Work program? 1158	
Hot Work Training	Citation: 29 CFR 1910.252 & 102
Question: Provided training on Hot Work operations initially for new employees and annually thereafter? 1159	
Initial Driver Training (BMP)	Citation: BMP
Question: Provided Initial Driver training periodically for all employees that drive company vehicles? 1264	
Inspection, DOT Annual	Citation: 49 CFR 396.17(c)
Question: Ensured an annual inspection has been performed on each commercial motor vehicle in accordance with DOT requirements? 1029	
Inspection, DOT Daily Post Trip	Citation: 49 CFR 396.11(c)(3)
Question: Ensured a daily post trip inspection report has been completed for every commercial motor vehicle every day? 1027	
Inspection, Fertilizer Containment Areas (BMP)	Citation: BMP
Question: Ensured monthly inspections have been performed, documented and maintained on file for each secondary and operational containment area? 1332	
Inspection, Pesticide Containment Areas	Citation: 40 CFR 165.90(b)(1)
Question: Ensured monthly inspections have been performed, documented and maintained on file for each secondary and operational containment area? 1167	
Inspection, Rail Car Release Form	Citation: 49 CFR 173.31
Question: Ensured each rail car containing a hazardous material (including a residue) has been inspected and determined to be in proper operating condition and safe for transportation? 1336	
Inspections, Maintenance (BMP)	Citation: BMP
Question: Implemented a mechanism to ensure all structures, equipment, machinery, etc. are periodically inspected for safe operating conditions and any need of repair, maintenance or replacement? 1295	
Inspector Qualifications, Air Brakes	Citation: 49 CFR 396.25
Question: Ensured each employee used to perform air brake inspections has met and documented the minimum qualifications as established by DOT? 1312	

Inspector Qualifications, Commercial Motor Vehicles	Citation: 49 CFR 396.19
Question: Ensured each employee used to perform annual inspections on commercial motor vehicles has met and documented the minimum qualifications as established by DOT?	
1313	
Labeling, Fertilizer Bins	Citation: 29 CFR 1910.1200(f)(5)(i)
Question: Labeled fertilizer bins with the identity of the contents and relative health and physical hazard warnings?	
1085	
Labeling, Fuel Tanks	Citation: 29 CFR 1910.1200(f)(5)(i-vi)
Question: Labeled fuel tanks with the identity of the contents and relative health and physical hazard warnings?	
1084	
Labeling, Package Pesticides	Citation: 40 CFR 156.10(a)(1)
Question: Ensured all packaged containers of pesticides have a product label affixed to the container?	
1078	
Labeling, Pesticides in PRCs	Citation: 40 CFR 156.10(a)(1)
Question: Ensured all portable refillable containers (PRCs) of pesticides have a product label affixed directly to each container or product labels are provided to handler employees working in remote locations?	
1202	
Ladder Safety Training	Citation: 29 CFR 1926.1060
Question: Provided safety training on the use of ladders periodically for employees who utilize ladders, stairs, etc. in the normal course of their duties?	
1337	
Ladders & Stairways, Fixed	Citation: 29 CFR 1910.27 & 24
Question: Provided fixed ladders and stairways, constructed to OSHA specifications, for each elevated work platform and walkway?	
1108	
Language Barriers	Citation: 29 CFR 1910.119 & 1030
Question: Communicated effectively with employees that cannot speak English or read instructions, training and other environmental, health, safety and security information needed to perform their assigned duties safely?	
1065	
Large Tank Annual Inspection (BMP)	Citation: BMP
Question: Ensured an annual inspection (visual in-use inspection) of each tank in use that is 100,000 gallon capacity or larger has been conducted by qualified personnel on-site, documented in writing and maintained on file?	
1163	
Large Tank Baseline Inspection (BMP)	Citation: BMP
Question: Performed a baseline inspection (complete API 653 internal and external to establish the condition/suitability for continued use) has been conducted by an American Petroleum Institute (API) qualified inspector and documented within the last ten years?	
1162	
Lockout/Tagout Program	Citation: 29 CFR 1910.147(c)(1)
Question: Developed and implemented a written lockout/tagout program with procedures?	
1012	

Lockout/Tagout Training	Citation: 29 CFR 1910.147(c)(7)
Question: Provided lockout/tagout training initially for new employees and annually thereafter? 1015	
Lockout/Tagout, Annual Review of Program	Citation: 29 CFR 1910.147(c)(6)(i)
Question: Conducted an annual review of the lockout/tagout program and procedures? 1013	
Lockout/Tagout, Equipment Available	Citation: 29 CFR 1910.147(c)(5)(i)
Question: Provided lockout/tagout equipment for use at the facility? 1014	
Longshore Activity	Citation: Longshore Harbor Workers Compensation Act
Question: Ensured employees performing duties at a maritime facility and over navigable waters are properly covered by the insurance provisions required by the Longshore Harbor Workers Compensation Act? 1292	
LP-Gas Competent Attendant Training	Citation: 29 CFR 1910.110(h)(11)(vii)
Question: Ensured each employee dispensing LP-Gas into the fuel container of a vehicle has completed competent attendant training? 1057	
LP-Gas Tank Inspection (BMP)	Citation: BMP
Question: Ensured an annual visual inspection of each storage tank in use for LP-Gas service has been conducted by qualified personnel on-site, documented in writing and maintained on file? 1182	
Markings, Anhydrous Ammonia Storage Tank	Citation: 29 CFR 1910.1200(f) & .111(b), ANSI K61.1-1989 6.
Question: Marked each storage tank used for anhydrous ammonia properly with the required decals? 1190	
Markings, Compressed Gas Cylinders	Citation: 29 CFR 1910.101(b)
Question: Ensured all cylinders of oxygen and acetylene or other compressed gases are labeled properly with contents and precautionary information? 1110	
Markings, NFPA 704 Markings on Buildings	Citation: State-Specific
Question: Labeled each building used for the storage of hazardous substances with the appropriate size NFPA sign and designations? 1281	
Markings, NFPA 704 Markings on Fuel Tanks	Citation: UFC 79.109
Question: Labeled each storage tank used for flammable liquids such as gasoline and diesel fuel with the appropriate NFPA decal and designations? 1228	
Markings, Nurse Tanks of Anhydrous Ammonia	Citation: ANSI K61.1-1989 11.4 & 11.6.2 & 49 CFR 172
Question: Marked each nurse tank and applicator tank used for anhydrous ammonia properly with the required decals? 1199	

Markings, U.S. DOT Number & Company Name	Citation: 49 CFR 390.21(a,b & c)
Question: Marked each commercial motor vehicle with company name and U.S. DOT number? 1105	

Material Handling & Transfer (BMP)	Citation: BMP
Question: Implemented Best Management Practices to prevent spillage or unintended loss of agrichemical inputs to uncontained areas? 1062	

Membership, National Trade Association (BMP)	Citation: BMP
Question: Actively participated as a member of one or more National trade associations? 1233	

Membership, State Trade Association (BMP)	Citation: BMP
Question: Actively participated as a member of one or more State trade associations? 1318	

Meter License or Certification	Citation: State-Specific
Question: Ensured all meters used for commercial purposes are licensed or certified periodically as required by the state? 1326	

Motor Vehicle Record (MVR)	Citation: 49 CFR 391.23(a)(1)
Question: Obtained a current Motor Vehicle Record (MVR) for new drivers and annually thereafter? 1021	

MSDS, Available Upon Request Sign	Citation: 29 CFR 1910.1200 (g)(7)(iii)
Question: Posted "MSDS Available Upon Request" sign? 1002	

MSDS, Current & Available	Citation: 29 CFR 1910.1200(g)(8)
Question: Provided access to current Material Safety Data Sheets (MSDS) to all employees? 1005	

NPDES Permit	Citation: 40 CFR 122
Question: Is this facility currently required to be permitted under the National Pollutant Discharge Elimination System (NPDES)? 1334	

Oil, 55 Gallon Drum Storage	Citation: 40 CFR 112.12
Question: Ensured all 55 gallon drums of oil products are protected by secondary containment measures and protected from precipitation? 1232	

Open Drains Prohibited (BMP)	Citation: BMP
Question: Ensured all open drains with potential to discharge materials directly to the environment have been properly sealed and removed from use? 1243	

OSHA 300 Summary	Citation: 29 CFR 1904.294 & 29 CFR 1904.44
Question: Posted the OSHA 300 Summary of Occupational Injuries & Illnesses during February, March and April of each year? 1011	
Oxyacetylene Hoses & Accessories	Citation: 29 CFR 1910.253(e)(5)(v)
Question: Ensured oxyacetylene hoses, gauges, flashback protection and other accessories are maintained in safe operating condition and properly secured at all times? 1170	
Oxygen & Acetylene Cylinders, Separation	Citation: CGA P-1-2006 (3.5.3)
Question: Ensured all cylinders of oxygen and acetylene or other sources of fuel or ignition are separated by a minimum of 20 feet when in storage? 1109	
Oxygen & Acetylene Training	Citation: CGA Pamphlet P-1-2006 (3.4.1)
Question: Provided training on oxygen and acetylene operations? 1043	
Pedestal Mounted Tools, Secured	Citation: 29 CFR 1910.212(a)(5)(b)
Question: Ensured all grinders, drill presses and other mounted tools are securely anchored to prevent movement during operation? 1098	
Periodic Tank Inspection for Replacement (BMP)	Citation: BMP
Question: Ensured each tank with a capacity of 100,000 gallons or less has been inspected, tested as appropriate, and removed from service in a timely manner based on industry-accepted criteria? 1289	
Personnel, Responsible & Supported	Citation: Base Question
Question: Assigned responsibility for environmental, safety, security and health to one or more personnel that have clear lines of authority and the full support of management? 1265	
Pesticide Applicators License, Commercial	Citation: State-Specific
Question: Ensured the Commercial Pesticide Applicators License (or certification) is current and available for inspection by the state? 1152	
Pesticide Applicators License, Reciprocity Granted	Citation: State-Specific
Question: Ensured the Commercial Pesticide Applicators License (or certification) is current, available and accepted by a reciprocity agreement between states for applications made in a neighboring state? 1279	
Pesticide Containers, Triple Rinsing	Citation: 40 CFR 165.7(a)
Question: Triple rinsed all pesticide containers and recycled or disposed of in an approved landfill? 1222	
Pesticide Dealers License	Citation: State-Specific
Question: Ensured the Pesticide Dealers License (or certification) is current and available for inspection by the state? 1151	

Pesticide Storage Under Cover	Citation: 40 CFR 165.10(c)
Question: Stored all pesticides within a dry, well ventilated, separate room, building or covered area protected from precipitation, and where fire protection is provided? 1081	
Piping & Hose (BMP)	Citation: BMP
Question: Ensured no piping or hose used for agrichemical use is allowed to be routed over, through or outside of containment walls? 1239	
Policy, Adherence to	Citation: Base Question
Question: Ensured all company policies regarding environmental, safety, security and health issues are fully supported? 1266	
Portable Refillable Containers	Citation: 40 CFR 165.40 & 45
Question: Ensured all portable refillable containers are equipped with proper identification and a one-way valve, a tamper-evident device, or both? 1237	
Portable Refillable Containers, Inspection	Citation: 40 CFR 165.65 & 70
Question: Ensured each portable refillable container has been inspected and processed according to the requirements before being filled? 1238	
Portable Refillable Containers, Recordkeeping	Citation: 40 CFR 165.65 & 70
Question: Ensured the refilling activity has been properly recorded and retained for each portable container being filled? 1239	
Posters, Labor Law (Federal OSHA)	Citation: 29 CFR 1903.2(a)(1)
Question: Provided employees access to the most current federal OSHA labor law posters? 1001	
Posters, Labor Law (State)	Citation: State-Specific
Question: Provided employees access to the most current state Labor Law posters? 1278	
Power Line Safety (BMP)	Citation: BMP
Question: Provided training initially for new employees and periodically thereafter for employees who operate and maintain custom application vehicles (CAV), grain augers or other equipment in close proximity to overhead electrical wires? 1285	
PPE Training	Citation: 29 CFR 1910.132(f)(1-4)
Question: Provided PPE training initially for new employees and annually thereafter? 1019	
PPE, Required for Anhydrous Ammonia	Citation: 29 CFR 1910.132(a) & .111(b) & ANSI K61.1-1989-3
Question: Provided employees with proper PPE and ensured they wear it when handling ammonia or operating, repairing or inspecting equipment used for anhydrous ammonia? 1196	

PPE, Required for Aqua Ammonia	Citation: 29 CFR 1910.132(a) & .111(b) & ANSI K61.1-1989-3
Question: Provided employees with proper PPE and ensured they wear it when handling ammonia or operating, repairing or inspecting equipment used for aqua ammonia?	
1333	

Presence of Friable Asbestos	Citation: Base Question
Question: Does this facility have knowledge of any asbestos-containing materials on-site?	
1253	

Presence of Holding Ponds, Pits or Lagoons	Citation: Base Question
Question: Does this facility have knowledge of any active or retired holding ponds, pits or lagoons located on-site?	
1255	

Presence of PCBs	Citation: Base Question
Question: Does this facility have knowledge of any transformers on-site that contain PCBs?	
1254	

Presence of Septic Tank(s)	Citation: Base Question
Question: Are there any active or inactive septic tank systems present at this facility?	
1250	

Presence of Storm Sewer Drain(s)	Citation: Base Question
Question: Are there any storm sewer drains present at this facility or on neighboring property close enough to receive stormwater runoff?	
1251	

Presence of Underground Plumbing/Piping	Citation: Base Question
Question: Does this facility have knowledge of any active or retired underground plumbing/piping located on-site?	
1261	

Pressure Gauge, Anhydrous Ammonia Storage Tank(s)	Citation: ANSI K 61.1 1999 6.2.2
Question: Ensured each storage tank used for anhydrous ammonia is equipped with a 0-400 psig gauge designed and approved for ammonia service?	
1186	

Process Safety Management (PSM)	Citation: 29 CFR 1910.119
Question: Developed and implemented a written Process Safety Management (PSM) program?	
1156	

Proper Use of Drains (BMP)	Citation: BMP
Question: Ensured all employees have been instructed on the importance of preventing inappropriate materials such as paint, solvents, lubricants and hazardous materials from being poured down drains?	
1308	

Proximity to Community Well/Wellhead Protection Area	Citation: Base Question
Question: Is this facility located within one mile of a well used as a water source for the public or community or an area designated as a wellhead protection area?	
1103	

Proximity to Down Gradient Stream	Citation: Base Question
Question: Is this facility located within one mile of the nearest down gradient stream? 1129	
Proximity to Down Gradient Surface Water	Citation: Base Question
Question: Is this facility located within one mile of a down gradient lake, reservoir or other body of water? 1126	
Proximity to Flood Plain	Citation: Base Question
Question: Is this facility located within a flood plain? 1128	
Proximity to Private Well	Citation: Base Question
Question: Is this facility located within 1/4 mile of a private well used as a water source? 1315	
Proximity to Sensitive Congregations of People	Citation: Base Question
Question: Are sensitive congregations of people, such as children's day care facilities, nursing homes, hospitals, schools, churches, stadiums, parks or other areas where the public gathers, located within an area of concern to this facility? 1321	
Proximity to Wetlands	Citation: Base Question
Question: Is this facility located within one mile of an area designated as a wetlands? 1127	
Pull-Away Protection, Anhydrous Ammonia Risers	Citation: 8 Illinois Admin Code Chapter 1, Section 215
Question: Provided pull-away protection at ammonia riser(s) used to fill nurse tanks, applicator tanks or cargo vessels with a capacity of 5,000 gallons or less? 1187	
Pump & Meter Location (BMP)	Citation: BMP
Question: Ensured no portion of a pump or meter unit used for agricultural use is allowed to be positioned over or outside of containment walls? 1236	
Radio (FM) License	Citation: 47 CFR 90.35
Question: Registered and maintains a current FM radio license in accordance with FCC rules? 1145	
Railings & Toe Boards	Citation: 29 CFR 1910.23(c)(1) & 1910.23(e)(1)
Question: Provided railings, intermediate rails and toe boards, constructed to OSHA specifications, for each elevated work platform and walkway? 1107	
Railroad Cars, Derailer Devices	Citation: 49 CFR 173.31(g)(1)
Question: Provided derailer, or other acceptable method of protection to secure a rail car of hazardous materials from being disturbed during the unloading process? 1212	

Railroad Cars, STOP-Tank Car Connected Sign	Citation: 49 CFR 174.67(a)(3)
Question: Provided "STOP-Tank Car Connected" or "STOP-Men at Work" caution sign for use when unloading rail cars of DOT hazardous materials?	
1211	

Railroad Cars, Wheel Stops	Citation: 29 CFR 1910.178(k)(2)
Question: Provided wheel chocks to prevent railroad cars from moving during loading or unloading operations?	
1113	

Rain Caps for Relief Valve (Anhydrous Ammonia)	Citation: 29 CFR 1910.111(b)(9) & ANSI K 61.1-1989 5.8.12
Question: Ensured each pressure relief valve currently in use for anhydrous ammonia service is protected by a rain cap?	
1181	

Rain Caps for Relief Valve (LP-Gas)	Citation: 29 CFR 1910.110(d)(4)(ii)(c)
Question: Ensured each pressure relief valve currently in use for LP-Gas service is protected by a rain cap?	
1180	

Registration of Food Facilities (Bioterrorism)	Citation: 21 CFR 1.225
Question: Registered this facility with the U.S. Food & Drug Administration (FDA) due to manufacturing, processing, packing or holding food for human or animal consumption?	
1276	

Relief Valves, Approved for Service (Anhydrous)	Citation: 29 CFR 1910.111(b)(9) & ANSI K 61.1-1989 5.8.15
Question: Ensured each pressure relief valve currently in use for anhydrous ammonia service is designed and approved for ammonia service?	
1184	

Relief Valves, Approved for Service (LP-Gas)	Citation: NFPA 58, 2-3.2.3
Question: Ensured each pressure relief valve currently in use for LP-Gas service is designed and approved for LP-Gas service?	
1179	

Repackaging Log, Annual Pesticide-Production Report	Citation: 40 CFR 169.2(b)
Question: Ensured a log or other complete record was prepared and maintained on file for all repackaged pesticides?	
1335	

Repackaging, Annual Pesticide-Production Report	Citation: 40 CFR 167.85
Question: Submitted a Pesticide-Production Report annually to EPA?	
1079	

Repackaging, Authorization for Bulk	Citation: EPA Bulk Repackaging Policy
Question: Maintained on-file copies of current written repackaging agreements for all bulk pesticide products being repackaged?	
1080	

Repackaging, EPA Establishment Number	Citation: 40 CFR 167.20
Question: Ensured this establishment has been registered with EPA and maintained an active status prior to repackaging pesticides?	
1059	

Respirators for Emergency Use	Citation: 29 CFR 1910.111(b)(10)(ii) & ANSI K61-1989-3.4.1.
Question: Provided and properly maintains two emergency-use full-face gas mask respirators suitable for emergency action at a stationary storage tank used for anhydrous ammonia?	
1064	
Respirators for Emergency Use, Inspection	Citation: 29 CFR 1910.134(h)(3)(i)(B)
Question: Inspected all emergency-use respirators (including gas masks) at least monthly to ensure they are properly stored and maintained in a state of readiness?	
1197	
Respiratory Fit Test	Citation: 29 CFR 1910.134(e)(5)(i)
Question: Provided respirator fit test initially for applicable new employees and annually thereafter?	
1092	
Respiratory Medical Evaluations	Citation: 29 CFR 1910.134(e)(1)
Question: Provided medical clearance by a physician for employees required to wear a respirator?	
1093	
Respiratory Protection Program	Citation: 29 CFR 1910.134(b)(1)
Question: Developed and implemented a written respiratory protection program?	
1090	
Respiratory Protection Training	Citation: 29 CFR 1910.134(b)(3)
Question: Provided respiratory protection training initially for new employees and annually thereafter?	
1091	
Restricted-Use Pesticide Record of Applications	Citation: USDA AMS, 1990 Farm Bill
Question: Maintained on-file records of commercial applications of restricted-use products?	
1086	
Restricted-Use Pesticide Record of Sales	Citation: USDA AMS, 1990 Farm Bill
Question: Tracked and maintains on-file the past 2 years of records of sales of restricted-use pesticides?	
1074	
Rinsate, Fertilizer	Citation: BMP
Question: Ensured all rinsate containing fertilizer residue is disposed of by land application or used as makeup water?	
1225	
Rinsate, Pesticide	Citation: 40 CFR 165.7
Question: Ensured all rinsate containing pesticide residue is disposed of in a manner consistent with its label?	
1223	
Rinsate, Storage & Segregation	Citation: 40 CFR 165.81
Question: Ensured all rinsate, wash water and any other residue-laden liquid is segregated and properly labeled by major use such as crop, pesticide rinsate or fertilizer rinsate?	
1224	

RMP Compliance Audit	Citation: 40 CFR 68.58
Question: Conducted a Compliance Audit, every three years, evaluating the facility's compliance with the provisions of the RMP rule? 1050	

RMP Emergency Contact Update	Citation: 40 CFR 68.195(b)
Question: Ensured any change in the person identified in the RMP as the Emergency Contact has been revised and submitted to the RMP Reporting Center within 30 days of the change first occurring? 1157	

RMP Hazard Review	Citation: 40 CFR 68.50
Question: Conducted a hazard review, every five years, of the hazards associated with the regulated substances, process, and procedures? 1115	

RMP Incident Investigation	Citation: 40 CFR 68.60
Question: Ensured an incident investigation has been conducted, documented and maintained on file for each incident involving a process associated with a RMP-regulated material such as anhydrous ammonia? 1119	

RMP Operator Training	Citation: 40 CFR 68.54
Question: Provided training to each employee operating a process associated with a RMP-regulated material such as anhydrous ammonia, initially for new employees and at least every three years or more often if necessary? 1117	

RMP Safety Information	Citation: 40 CFR 68.48
Question: Developed and maintains the safety information for RMP including: current MSDS, maximum intended inventory, safe upper and lower working limits, equipment specifications and design codes? 1114	

RMP Submittal	Citation: 40 CFR 68.10
Question: Submitted a Risk Management Plan (RMP) or update to EPA? 1049	

RMP Written Maintenance Procedures	Citation: 40 CFR 68.56
Question: Compiled and maintains written information regarding the on-going mechanical integrity of the process equipment associated with a RMP-regulated material such as anhydrous ammonia? 1118	

RMP Written Operating Procedures	Citation: 40 CFR 68.52
Question: Developed and maintains written operating procedures that provide instructions or steps for safely conducting activities associated with each covered process? 1116	

R-Stamp Welding Certification	Citation: ASME Boiler and Pressure Vessel Code
Question: Ensured all welds made to pressurized vessels, such as anhydrous ammonia tanks, are made by a welder with a current certification to perform R-Stamp welding? 1293	

Safety Chains	Citation: 49 CFR 393.71(h)(10)(i-iii)
Question: Ensured all towed equipment has been equipped with safety chains, cables or other equivalent device? 1203	

Safety Shower/Eye Wash for Emergency Use	Citation: 29 CFR 1910.151(c) & ANSI Z3581-2004
Question: Provided emergency safety shower/eye wash in areas where the eyes or body could be exposed to corrosive materials such as ammonia, battery acid, etc?	
1068	
Safety Shower/Eye Wash Maintenance	Citation: ANSI Z3581-2004
Question: Activated weekly and inspected annually all emergency safety showers/eye wash stations?	
1056	
Safety Water: Nurse/Applicator Tanks	Citation: 29 CFR 1910.151(c) & ANSI K61.1-1989 11.6.2.1
Question: Provided at least 5 gallons of safety water on all nurse wagons and applicators used for anhydrous or aqua ammonia?	
1066	
Safety Water: Storage Tank	Citation: 29 CFR 1910.111(b)(10)(iii) & ANSI K61.1-1989 3.3.
Question: Provided emergency safety shower or 150 gallon jump tank in areas where the eyes or body could be exposed to corrosive materials?	
1067	
Sandblasting & Painting (BMP)	Citation: BMP
Question: Ensured all sandblasting and painting activities controlled dust/spray and strictly observed thresholds regarding the generation, storage and disposal of potential hazardous waste materials?	
1260	
SARA Tier II Report	Citation: 40 CFR 370.20(a-d)
Question: Submitted a SARA Tier II report annually to their Fire Department, Local Emergency Planning Committee (LEPC) and State Emergency Response Commission?	
1048	
Scale License or Certification	Citation: State-Specific
Question: Ensured all scales used for commercial purposes are licensed or certified periodically as required by the state?	
1083	
Securement, Cargo	Citation: 49 CFR 177.834
Question: Ensured all cargo (portable refillable containers, tanks, pallets, boxes, etc.) being transported is secured sufficiently?	
1320	
Securement, Machinery & Equipment on Trailers	Citation: 49 CFR 393.130(c)
Question: Ensured all equipment or machinery being transported by trailer is secured properly using four tiedowns of sufficient strength for the load?	
1200	
Security Awareness Training, DOT	Citation: 49 CFR 172.704(a)(4)
Question: Provided DOT security awareness training on hazardous materials initially for new employees and every three years thereafter?	
1121	
Security In-Depth Training, DOT	Citation: 49 CFR 172.704(a)(5)
Question: Provided DOT In-depth security training, based on the security plan of the company, initially for all new employees and every three years thereafter?	
1122	

Security Plan, DHS Site Security Plan	Citation: 6 CFR 27.225
Question: Developed, implemented and maintains a written Security Plan as required by the Department of Homeland Security? 1221	
Security Plan, DOT	Citation: 49 CFR 172.800
Question: Developed, implemented and maintains a written security plan required by the Department of Transportation? 1054	
Security Plan, Maritime Facility	Citation: 33 CFR 105 & 405
Question: Developed, submitted and received approval from the U.S. Coast Guard for a written facility security plan? 1259	
Security Plan, USDA	Citation: UGRSA, CCC-25, Part III, O
Question: Developed, implemented and maintains a written Security Plan required by the United States Department of Agriculture? 1275	
Security Signage (BMP)	Citation: BMP
Question: Posted a security sign at all entrances with the words "No Trespassing! - All visitors must sign in at the office" or similar, limiting access to the property to authorized persons? 1220	
Security Vulnerability Assessment	Citation: 49 CFR 172.802 & 6 CFR 27.215
Question: Conducted a security vulnerability assessment of this facility? 1053	
Segregation of Pesticides from Food	Citation: 40 CFR 165.10(e)(1)(iv)
Question: Ensured all pesticides are stored away and separate from food and feed? 1077	
Shipping Papers for Hazardous Materials	Citation: 49 CFR 172.200-204
Question: Prepared and ensured a shipping document accompanies each shipment of hazardous materials? 1058	
Sight Gauges, Bulk Fertilizer Tanks (BMP)	Citation: BMP
Question: Ensured all sight gauges used on bulk liquid fertilizer tanks have been equipped with locking or self-closing devices and are secured to the tank at intervals of 8 feet or less? 1210	
Sight Gauges, Prohibited on Pesticide Tanks	Citation: 40 CFR 165.45(2)(ii)
Question: Ensured that all bulk storage tanks used for pesticides are not equipped with sight gauges? 1209	
Sign, "Not an EXIT"	Citation: 29 CFR 1910.36(b)(5)
Question: Clearly marked and conspicuously indicated with "Not an EXIT" sign, any doorway or passageway not constituting an exit or way to reach an exit? 1168	

Sign, Emergency Notification at Entrance	Citation: ANSI K61.1-1989-6.8
Question: Provided a legible emergency notification sign at the entrance to anhydrous ammonia installations that is readily visible to emergency response personnel?	
1055	
Sign, Exits	Citation: 29 CFR 1910.36(b)(5)
Question: All exits have been clearly marked and conspicuously indicated?	
1008	
Sign, No Smoking (Chemical Warehouse)	Citation: 29 CFR 1910.106(f)(6)
Question: Posted NO SMOKING sign inside and outside chemical warehouse storage areas?	
1076	
Sign, No Smoking (Fueling Areas)	Citation: 29 CFR 1910.106(f)(6)
Question: Posted NO SMOKING sign(s) in fuel handling, storage and dispensing areas?	
1082	
Sign, Pesticide Storage Area	Citation: 40 CFR 165.10(a)(1) & (c)(2)
Question: Posted "DANGER! PESTICIDE STORAGE AREA" sign on all buildings or in all areas where pesticides with the signal words "DANGER-POISON" or "WARNING" are stored?	
1075	
Sign, Slow Moving Vehicle (SMV)	Citation: 29 CFR 1910.145(d)(10)
Question: Ensured all towed equipment designed for travel at speeds 25 mph or less has been equipped with a Slow Moving Vehicle (SMV) sign?	
1204	
Solid Waste/Trash	Citation: Base Question
Question: Ensured all employees have been instructed on the importance of recycling if possible and preventing inappropriate waste materials from being discarded in the dumpster?	
1256	
Spare Fuses, DOT	Citation: 49 CFR 393.95(b)
Question: Provided spare fuses for emergency use in the power unit of all commercial motor vehicles?	
1104	
SPCC Plan (Non-Petroleum Oil Products)	Citation: 40 CFR 112.1 & 3
Question: Ensured a SPCC plan was developed and implemented for an aggregate total capacity of oil products (including non-petroleum oil products) stored in aboveground containers greater than the 1,320 gallon threshold?	
1280	
SPCC Plan (PE)	Citation: 40 CFR 112.1 & 3
Question: Ensured a professional engineer developed and facility has implemented a SPCC plan for an aggregate total capacity of oil products stored in aboveground containers greater than the 1,320 gallon threshold and that does not qualify for self-certification?	
1094	
SPCC Plan (Tier 1)	Citation: 40 CFR 112.6(a)
Question: Ensured this facility has fully implemented a SPCC plan for an aggregate total capacity of oil products stored in aboveground containers greater than 1,320 gallons, but less than 10,001 gallons, with no tank that exceeds 5,000 gallons?	
1097	

SPCC Plan (Tier 2)	Citation: 40 CFR 112.6(b)
Question: 1101 Ensured this facility has fully implemented a SPCC plan for an aggregate total capacity of oil products stored in aboveground containers greater than 1,320 gallons, but less than 10,001 gallons, with a tank that exceeds 5,000 gallons?	
SPCC Plan Monitoring Inventory	Citation: 40 CFR 112.1 & 3
Question: 1258 Systematically monitors inventory levels of oil products to determine if the aggregate total aboveground storage capacity of oil products (Capacity of 55 gallons or more.) exceeds 1,320 gallons and requires a SPCC plan?	
Spill Trays (BMP)	Citation: BMP
Question: 1227 Provided portable spill trays for use containing dripped materials from each transfer point and beneath valves and connections?	
Spray Drift Reduction (BMP)	Citation: BMP
Question: 1325 Ensured all applications of pesticide are performed utilizing the drift-reduction measures (additive, spray tips, hoods, setbacks, etc.) appropriate to the situation to effectively reduce the potential for spray drift?	
Storage Tank Location (BMP)	Citation: BMP
Question: 1235 Ensured no portion of a bulk storage tank used for agricultural use is allowed to be positioned over or outside of containment walls?	
Storm Water Collection & Testing (BMP)	Citation: BMP
Question: 1160 Ensured storm water that has accumulated is tested before being pumped out, unless personnel have reliable knowledge it is free of contaminants?	
Tank (<100,000 Gal) Annual Inspection (BMP)	Citation: BMP
Question: 1164 Ensured an annual inspection (visual in-use inspection) of each tank in use, that is less than 100,000 gallon capacity, has been conducted by qualified personnel on-site, documented in writing and maintained on file?	
Tanks, Anchoring of Bulk Storage	Citation: 40 CFR 165.85 & 87
Question: 1234 Ensured each bulk storage tank located within a secondary containment area has been anchored or elevated to prevent floating and tipping?	
Third Party Contract Applicators (BMP)	Citation: BMP
Question: 1311 Ensured each third party applicator (aerial, ground, etc.) contracted on behalf of this company possesses the appropriate levels of insurance in addition to the proper license(s) and/or certification(s) for the services performed?	
Tire & Wheel Rim Repair, Large or Heavy Tires/Wheels	Citation: BMP
Question: 1291 Provided and ensured employees utilize a mechanical device to lift and position large or heavy tire/wheel assemblies?	
Tire & Wheel Rim Repair, Safe Work Practices	Citation: 29 CFR 1910.177
Question: 1263 Provided training to tire service employees on working safely with single and multi-piece tire and wheel rims?	

Tire & Wheel Rim Repair, Split Rims	Citation: 29 CFR 1910.177(d)(1)
Question: Provided and ensured employees utilize a safety cage and air hose extension when working/repairing split rim wheels? 1290	
Tires, Used	Citation: State-Specific
Question: Ensured all used tires are recycled and stored properly within the limits (maximum number of days and number of used tires) established by your State? 1270	
Tires, Wheels, Lug Nuts & Brakes	Citation: 49 CFR 393.40-205
Question: Ensured each commercial motor vehicle is equipped with tires, wheels, lug nuts and brakes that are in safe operating condition for transportation on a public highway? 1339	
T-reactor, Mobile Contracted	Citation: 29 CFR 1910.119 & 40 CFR 68
Question: Ensured the contractor providing T-reactor and related services has developed and implemented Process Safety Management (PSM) procedures by asking for documentation prior to the activity beginning? 1155	
Unattended Storage Tanks, Anhydrous Ammonia	Citation: 29 CFR 1910.111(c)(6)(i), ANSI K61.1-1989 6.7.1
Question: Ensured the main shut-off valve(s) to each storage tank used for anhydrous ammonia are closed and locked when the installation is unattended? 1198	
Unattended Storage Tanks, Bulk Liquid Fertilizer	Citation: 40 CFR 165.90(a)(5)
Question: Ensured that each lockable valve on a stationary bulk liquid fertilizer storage tank is closed and locked, or that the facility is locked, whenever the facility is unattended? 1208	
Unattended Storage Tanks, Bulk Pesticides	Citation: 40 CFR 165.90(a)(5)
Question: Ensured that each lockable valve on a stationary pesticide storage tank is closed and locked, or that the facility is locked, whenever the facility is unattended? 1207	
Unattended Storage Tanks, Petroleum Products	Citation: NFPA 30
Question: Ensured that each stationary petroleum storage tank is closed and locked, or that the facility is locked, whenever the facility is unattended? 1327	
Unattended Vehicles, Removal of Keys (BMP)	Citation: BMP
Question: Implemented Best Management Practices to ensure keys are removed from all vehicles when left unattended? 1294	
Underground Storage Tank(s)	Citation: 40 CFR 280.34
Question: Registered and maintained the records required for each underground storage tank? 1231	
Used Oil	Citation: 40 CFR 279.10(a)
Question: Ensured all used oil is handled, transported and stored in accordance with the rules governing the recycling and burning on-site? 1217	

Used Oil Filters	Citation: 40 CFR 261.4(b)(13)
Question: Ensured used oil filters are properly drained and recycled to prevent from being considered hazardous waste? 1219	
Valves, Emergency Shutoff, Anhydrous Ammonia	Citation: ANSI K 61.1-1999 5.10.8.1
Question: Ensured emergency shutoff valves or backflow check valves have been properly located (within 5 feet) and installed in the fixed liquid and vapor piping of the stationary storage facility? 1194	
Valves, Excess Flow & Back Pressure Check	Citation: 29 CFR 1910.111(b)(6)(vi)
Question: Ensured excess flow and back pressure check valves have been properly installed in each storage tank used for anhydrous ammonia? 1188	
Valves, Excess Flow, Anhydrous Ammonia	Citation: 29 CFR 1910.111(b)(6)(iii)
Question: Provided excess flow valve(s) that are properly sized in relation to the appurtenances being protected, for the specific purpose of ensuring the flow is sufficient to properly close in case of a failure of the line or fitting? 1192	
Valves, Hydrostatic Relief, Anhydrous Ammonia	Citation: 29 CFR 1910.111(b)(9)(ix)
Question: Ensured a hydrostatic relief valve has been installed between each pair of valves in the liquid ammonia piping or hose where pressure may be trapped? 1193	
Vehicle Maintenance Files	Citation: 49 CFR 396.3
Question: Systematically inspected, repaired and maintained all commercial motor vehicles, with documentation maintained in a vehicle maintenance file? 1028	
Venting of Bleeder Valves (BMP)	Citation: BMP
Question: Provided a "bleeder tank" and ensured its use each time when bleeding pressure off hoses prior to being disconnected? 1189	
Vents, Bulk Pesticide Storage Tanks	Citation: 40 CFR 165.45(f)(2)
Question: Ensured each bulk pesticide storage tank is equipped with a vent device? 1240	
Visitors Escort (BMP)	Citation: BMP
Question: Ensured for security purposes, each visitor to this facility is escorted by an employee or representative of the company? 1319	
Visitors Log (BMP)	Citation: BMP
Question: Provided a sign-in sheet to log the name of the visitor and the company they represent, date and time of arrival, purpose of the visit and time of departure? 1150	
Welding Equipment, Electrical	Citation: 29 CFR 1910.254(d)(7)
Question: Ensured welding rods are never left in the welding leads and all welding cables, power cords, ground wiring and accessories are maintained in safe operating condition? 1172	

Welding Screens	Citation: 29 CFR 1910.252(b)(2)
Question: Provided non-combustible screens or shields in the area surrounding welders to protect the other workers from rays? 1171	
Wellhead Protection	Citation: 40 CFR 141.71
Question: Ensured each wellhead has been effectively sealed to prevent surface or stormwater from entering the well casing? 1226	
Wells, Potable	Citation: State-Specific
Question: Ensured each potable well (used for drinking water) has been registered and maintained in accordance with the governing state agency? 1286	
Wheel Chocks for Ammonia Installation	Citation: 29 CFR 1910.111(f)(9)
Question: Provided wheel chocks to prevent nurse wagons or trucks from rolling away while loading and unloading? 1069	
Wheel Chocks for Loading Dock	Citation: 29 CFR 1910.178(k)(1)
Question: Provided wheel chocks to prevent trucks from rolling away from loading docks? 1047	
Wheel Chocks for Propane Installation	Citation: NFPA 58-6-3.8
Question: Provided wheel chocks to prevent LP-Gas/Propane trucks from rolling or moving while loading and unloading? 1328	
Workplace Hazard Assessment	Citation: 29 CFR 1910.132(d)(1 & 2)
Question: Conducted a workplace hazard assessment for use in determining the required PPE? 1016	
WPS Decontamination Kits	Citation: 40 CFR 170.250
Question: Provided WPS decontamination kits for handlers of pesticides? 1089	
WPS Notice of Application	Citation: CFR 40 170.224
Question: Provided WPS notice of application information to farmers prior to making the commercial application of general-use and restricted-use pesticides? 1087	
WPS Notice of Application (Greenhouse/Nursery)	Citation: CFR 40 170.224
Question: Provided WPS notice of application information to workers in a prominent location prior to making the application of pesticides within a greenhouse or nursery? 1309	
WPS Safety Poster (Greenhouse/Nursery)	Citation: 40 CFR 170.235
Question: Ensured a current WPS Safety Poster and emergency medical care information is posted in a central area readily accessible to all workers? 1310	

WPS Training

Citation: 40 CFR 170.230(a)

Question: Provided WPS training initially for new handlers and every five years thereafter?
1088

WPS Training for Fumigant Handlers

Citation: 40 CFR 170.230(a)

Question: Provided training initially for new employees defined as fumigant-handlers and every five years thereafter?
1257



The
Fertilizer Institute

Nourish, Replenish, Grow

The Fertilizer Institute's Comments on the
Interagency Working Group's "Solicitation of Public Input on
Options for Policy, Regulation, and Standards of
Modernization" Regarding Executive Order 13650

Docket No. OSHA-2013-0026
(Opened January 6, 2014)

March 31, 2014

Capitol View
425 Third Street, S.W., Suite 950
Washington, DC 20024

202.962.0490
202.962.0577 fax
www.tfi.org

TABLE OF CONTENTS

I.	STATEMENT OF INTEREST.....	1
II.	OPENING STATEMENT.....	3
III.	THE WG SHOULD SUPPORT CURRENT VOLUNTARY PROGRAMS AS A “BRIDGE” TO PERMANENT MEASURES THAT IMPLEMENT THE EO.....	3
IV.	DHS’S SECURITY REGULATIONS.....	5
	A. TFI Encourages DHS to Expand the Regulation of “Fertilizer Grade” AN, While Maintaining Deferral of CFATS for Agricultural Production Facilities.....	6
	1. TFI Recommends that DHS Regulate “Fertilizer Grade” AN, Whether or Not in “Transportation Packagings,” under the Current “Theft/Diversions” Scenario.....	6
	2. TFI Recommends that DHS Maintain its Deferment of CFATS for Agricultural Production Facilities (<i>i.e.</i> , Farmers) that are Not Germane to the EO.....	8
	B. TFI Encourages DHS to Finalize the ANSP.....	9
V.	OSHA’S PSM STANDARD.....	12
	A. AN Is Not Compatible with a “Functional Group” Approach, and 29 C.F.R. § 1910.109(i) Is Better Suited for AN at Fertilizer Facilities than the PSM Standard.....	12
	B. TFI Suggests that OSHA Expand the Applicability of 29 C.F.R. § 1910.109(i) to Cover Fertilizer Manufacturing, Distribution, Wholesale, and Retail Facilities for “Oxidizer” AN and AN Mixtures, Provided that OSHA Retains the PSM “Retail Facilities” Exemption.....	14
	1. OSHA’s Longstanding Guidance on the “Retail Facilities” Exemption.....	15
VI.	OSHA’S “EXPLOSIVES AND BLASTING AGENTS RULES” FOR AN.....	17
	A. As Adopted by OSHA, 29 C.F.R. § 1910.109(i) was a Consensus Standard with Limited Applicability.....	17
	B. Structurally, 29 C.F.R. § 1910.109(i) Regulates “Explosives and Blasting Agents,” Not Possible “Oxidizers” or Fertilizer.....	18
VII.	EPA’S RISK MANAGEMENT PROGRAM.....	20
	A. As with OSHA, TFI Recommends that EPA Avoid Regulating AN or AN Mixtures Based on a “Functional Group” Approach to “Reactive” Chemicals.....	20
	B. TFI Recommends that EPA Continue to Interact with TFI on RMP Guidance for “Retail Facilities”.....	21
VIII.	THE WG SHOULD NOT MANDATE ASSESSMENT OR IMPLEMENTATION OF “INHERENTLY SAFER TECHNOLOGY”.....	22

TABLE OF CONTENTS

IX. THE WG SHOULD SEEK AN AMENDMENT TO THE EMERGENCY
PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT TO REMOVE THE
“FERTILIZER RETAIL” EXEMPTION, THEREBY INCREASING THE
INFORMATION AVAILABLE TO FIRST RESPONDERS 23

X. CONCLUSION..... 25

ATTACHMENT A - BROCHURE ON THE RESPONSIBLEAG PROGRAM 26

ATTACHMENT B - SAFETY & SECURITY GUIDELINES FOR THE STORAGE
AND TRANSPORTATION OF FERTILIZER GRADE AMMONIUM NITRATE AT
FERTILIZER RETAIL FACILITIES..... 27

ATTACHMENT C - COMMENTS FROM THE MCGREGOR COMPANY
REGARDING FERTILIZER RETAIL FACILITIES 28

The Fertilizer Institute (“TFI”), on behalf of its member companies, submits these comments in response to the Interagency Working Group (“WG”) “Solicitation of Public Input on Options for Policy, Regulation, and Standards of Modernization” (the “WG Solicitation”) that proposes possible agency actions to implement Executive Order No. 13650 (Aug. 1, 2013) (the “EO”). The WG Solicitation was made available for public comment through a Memorandum from the U.S. Occupational Safety & Health Administration (“OSHA”) posted on January 6, 2014.¹

I. STATEMENT OF INTEREST

TFI represents the nation’s fertilizer industry including producers, importers, retailers, wholesalers, and companies that provide services to the fertilizer industry. TFI members provide nutrients that nourish the nation’s crops, helping to ensure a stable and reliable food supply. TFI’s full-time staff, based in Washington, D.C., serves its members through legislative, educational, technical, economic information, and public communication programs.

Some TFI members manufacture and distribute fertilizers such as anhydrous ammonia and aqua ammonia, and other TFI members hold these valuable fertilizers at their facilities for sale to end users (e.g., farmers), or directly serve such retail facilities. Anhydrous ammonia and aqua ammonia are subject to (1) OSHA’s Process Safety Management (“PSM”) Standard, when present above designated threshold quantities (“TQs”) in the PSM “List of Highly Hazardous Chemicals, Toxics, and Reactives” (“PSM List”),² (2) the U.S. Environmental Protection Agency (“EPA”) Risk Management Program (“RMP”), when present above designated TQs in the RMP’s “List of Regulated Toxic Substances and Threshold Quantities for Accident Release Prevention,”³ and (3) the U.S. Department of Homeland Security (“DHS”) Chemical Facility Anti-Terrorism Standards (“CFATS”), when present above designated Screening Threshold Quantities (“STQs”) in the “DHS Chemicals of Interest” list (“CFATS List”),⁴ unless excluded or exempted from regulation.

TFI members also manufacture and distribute fertilizers that contain ammonium nitrate (“AN”) in various physical and chemical configurations for agricultural use across the United States (e.g., as homogeneous or blended prills), and some members hold AN and these AN mixtures at their facilities for sale to end users, or directly serve such retail facilities. AN is a critical source of nitrogen in fertilizers, and has considerable agronomic benefits⁵ and few viable substitutes⁶ —

¹ See Regulations.gov, “Memorandum Opening Docket for Public Comment,” (posted Jan. 6, 2014) (Dkt. OSHA-2013-0026-0001), <http://www.regulations.gov/#!documentDetail:D=OSHA-2013-0026-0001>.

² 29 C.F.R. § 1910.119, App. A.

³ 40 C.F.R. § 68.130, Table 2.

⁴ 6 C.F.R. Part 27, App. A.

⁵ Chemically, the nitrate component of AN (*i.e.*, NO₃) is responsible for the rapid uptake of nitrogen into agricultural crops from AN fertilizers, reducing the loss of nitrogen to the atmosphere and increasing crop yields. These aspects of AN provide distinct cost and environmental advantages above virtually all other sources of nitrogen that can be feasibly and economically manufactured into fertilizers. Unlike other nitrogen-based fertilizers, when AN is applied to the soil, no carbon dioxide is emitted into the atmosphere as a greenhouse gas and no ammonia volatilization occurs.

⁶ Importantly, promoting substitute products for AN most likely would not resolve any of the concerns noted in the EO. Though it is possible to create certain blended fertilizer products in limited quantities using nitrogen sources other than AN, there are major economic and technical limiting factors associated with the alternative

in fact, for some crops, AN is the most environmentally and economically viable nitrogen fertilizer. Thus, ensuring the safe, effective, and secure production and use of this critical fertilizer has been a top priority for TFI and its members for many years. For instance, since the criminal bombing of the Alfred P. Murrah Building in Oklahoma City in 1995, TFI has worked diligently with its members and various government agencies to implement voluntary measures that (1) secure AN fertilizer storage facilities, (2) screen purchases of AN fertilizer, and (3) provide resources for AN facilities to manage AN fertilizer responsibly. TFI was a key proponent of the enabling legislation that granted DHS authority to enhance the security of facilities handling AN,⁷ and has coordinated with DHS during its ongoing rulemaking to create a nation-wide Ammonium Nitrate Security Program (“ANSPP”).⁸ In addition, TFI supported DHS’s CFATS efforts, including the inclusion of fertilizer grade AN.⁹

Shortly after the West Chemical & Fertilizer Company’s incident that occurred on April 17, 2013 (the “West Fertilizer incident”), TFI began implementing a number of steps to help strengthen the safe and secure management of AN at fertilizer facilities. For instance, TFI has co-established the independent, not-for-profit “ResponsibleAg” organization, which creates a comprehensive inspection/audit mechanism to help ensure that fertilizer facilities comply with the numerous existing regulations that already are applicable to the industry.¹⁰ In addition, TFI co-developed modernized “Safety & Security Guidelines for the Storage and Transportation of Fertilizer Grade Ammonium Nitrate at Fertilizer Retail Facilities” that are specifically directed toward AN retailers. These efforts by TFI are described in Section III of our comments.

TFI has been an active participant in the WG efforts, participating and testifying during the November 15, 2013 WG Listening Session in Washington, D.C.¹¹ Moreover, TFI recently was selected by OSHA as a partner to help make TFI members aware of legal requirements, best practice recommendations, standards, and guidelines that could help improve safety at fertilizer facilities in the near term.¹² Additionally, TFI has been openly supporting Congressional

sources: in short, such substitutes could not create viable substitutes for AN in commercial agriculture. Thus, TFI believes that the proper focus of OSHA should center on AN and AN mixtures that would qualify as “oxidizers,” as described in these comments. Going further would not be germane to the tragedies that led to the EO.

⁷ See Section 563 of the Fiscal Year 2008 Homeland Security Appropriations Act, Pub. L. No. 110-161 (Dec. 26, 2007) (entitled “Secure Handling of Ammonium Nitrate”).

⁸ See “Proposed Rule: Ammonium Nitrate Security Program,” 76 Fed. Reg. 46,908 (Aug. 3, 2011).

⁹ 6 C.F.R. Part 27, App. A.

¹⁰ See TFI, “Statement on Executive Order ‘Improving Chemical Facility Safety and Security’” (Aug. 1, 2013), <http://www.tfi.org/media-center/news-releases/statement-executive-order-%E2%80%9Cimproving-chemical-facility-safety-and-security>.

¹¹ See TFI, “TFI’s Verbal Statement Presented on Nov. 15 at the Washington, D.C., Listening Session Regarding President Obama’s Executive Order Improving Chemical Facility Safety and Security” (Nov. 15, 2013), <http://www.tfi.org/media-center/news-releases/tfis-verbal-statement-presented-nov-15-washington-dc-listening-session-re>.

¹² See OSHA, “Trade News Release: OSHA Partners with Fertilizer Industry to Get Message Out On Chemical Safety” (Feb. 10, 2014), available at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=25578; see also Letter from Dr. David Michaels, Assistant Secretary for Occupational Safety and Health, to Fertilizer Industry Employer (Feb. 10, 2014) (stating that “federal government, industry groups, and consensus standard organizations have all prepared standards or guidelines on safely storing and handling ammonium nitrate,” and noting that employers can adopt such “standards or guidelines”), available at https://www.osha.gov/dep/fertilizer_industry/letter_fertilizer_industry.html.

legislation to maintain agency funding for necessary security programs.¹³ In yet another parallel effort, TFI has been actively participating on the National Fire Protection Association (“NFPA”) Technical Committee on Hazardous Chemicals, and working to reform and update the NFPA’s current rules related to AN to anticipate and prevent potential hazards.

Thus, TFI and its members have a substantial interest in the WG’s contemplation of possible agency actions, the objectives of the EO, and striking an effective balance among the numerous regulatory programs that are implicated by the WG Solicitation (and, that already are applicable to varying degrees across the fertilizer industry).

II. OPENING STATEMENT

TFI has compiled and summarized the feedback it has received from its members below; for ease of reference, these comments cross-reference the specific questions and options raised within the WG Solicitation in footnotes. TFI stands ready to discuss our comments collaboratively with the WG and its component agencies to help them meet their common objective of responding to the EO through appropriate rulemaking and other agency actions. First, TFI discusses the specific initiatives that it already has been implementing in the wake of the West Fertilizer incident.

III. THE WG SHOULD SUPPORT CURRENT VOLUNTARY PROGRAMS AS A “BRIDGE” TO PERMANENT MEASURES THAT IMPLEMENT THE EO

The EO requires the WG agencies to “convene stakeholders . . . in order to identify and share successes to date and best practices to reduce safety risks and security risks in the production and storage of potentially harmful chemicals, including through the use of safer alternatives, adoption of best practices, and potential public-private partnerships.”¹⁴ TFI should have a seat at this table in light of the programs it has fostered over the years, and that it continues to foster in the wake of the West Fertilizer incident, to ensure the safety and security of fertilizers across the United States.

As noted above, TFI has undertaken extensive voluntary efforts with its membership to ensure that AN is managed securely in the wake of the criminal bombing of the Alfred P. Murrah Building in Oklahoma City in 1995. Accordingly, TFI and its members are ideally positioned to support the EO and the WG’s efforts by continuing and expanding these private sector efforts while various public rulemaking processes unfold. As the WG likely has anticipated, the timing implicated by the public process that would be required for rulemakings by the WG’s multiple agencies could delay much-needed improvements. Thus, in light of the unique position of TFI and its membership, TFI stands ready to discuss the proposals and issues set forth in these comments with the WG, as well as its component agencies individually. TFI also would be pleased to discuss the best practices and lessons learned that TFI already has gathered regarding

¹³ See, e.g., TFI, “The Fertilizer Institute Commends Introduction of Chemical Facility Anti-Terrorism Standards Legislation” (Feb. 11, 2014) (regarding the CFATS Authorization and Accountability Act of 2014), available at <http://www.tfi.org/media-center/news-releases/fertilizer-institute-commends-introduction-chemical-facility-anti-terrori>.

¹⁴ EO § 7.

management of AN and AN mixtures. In the interim, TFI and its membership have started to implement several important voluntary initiatives in response to the West Fertilizer incident.

First, TFI recently co-established the independent “ResponsibleAg” organization with the Agricultural Retailers Association (“ARA”). Under ResponsibleAg, retail fertilizer dealerships will enroll in the program and be subject to comprehensive inspections based on federal regulatory requirements. The inspections will be carried out by trained auditors who will have completed an intensive training course at the Asmark Institute — a private, not-for-profit organization that serves as a leading national resource center for compliance materials and services (and co-developed the successful “myRMP” compliance guidance and tool that earned EPA’s formal support and endorsement in 2007¹⁵). Auditors will have to undergo annual continuing education as a condition of maintaining their credentials, and each participating facility will receive an assessment by a credentialed auditor every three years. Facilities that successfully complete the audit process will be recognized for having done so. On the other hand, sites that do not successfully complete an audit will be provided a facility-specific list of recommended corrective actions. Additionally, random quality assurance reviews to verify the assessments will be conducted by third party auditors.

Membership in TFI, ARA, or any other organization is not a requirement for participation in ResponsibleAg — this novel, comprehensive inspection and audit organization will be available to all fertilizer retail facilities nationwide. TFI and ARA estimate that there are about 3,000 retailers who handle AN and/or anhydrous ammonia, and anticipate that a significant percentage of those will participate in ResponsibleAg. At a minimum, ResponsibleAg will help ensure that whether small or large, fertilizer retail facilities have access to the latest information on regulatory compliance. Further, the audit history of specific facilities will show their track record of complying with applicable requirements, as well as the potential need for corrective action. TFI is confident that ResponsibleAg will help fertilizer facilities verify compliance with greater accuracy, speed, and regularity than is currently being done by the multitude of federal agencies that regulate the nation’s fertilizer retailers. Thus, TFI and ARA have voluntarily contributed the necessary startup capital to establish and fund this organization.

TFI believes that the ResponsibleAg program is directly in line with the efforts and objectives of the WG and the EO, namely helping to assure the safe storage and handling of these products. TFI looks forward to sharing further details regarding ResponsibleAg with the WG as it considers additional actions to implement the EO and attempts to harmonize the many federal regulations applicable to retailers.¹⁶

In a second endeavor to improve safety and security of AN, TFI and the ARA have developed modernized “Safety & Security Guidelines for the Storage and Transportation of Fertilizer Grade Ammonium Nitrate at Fertilizer Retail Facilities” (“FGAN Guidelines”) that are specifically directed toward AN retailers. Given the pressing need to provide approachable, self-implementing compliance tools to owners, operators, and managers at such small entities — and

¹⁵ See EPA, Risk Management Plan Website (last visited Feb. 12, 2014), <http://www.epa.gov/oecaagct/rmp.html#myrmp> (“EPA is recommending that retailers nationwide use myRMP. The program was launched Aug. 13, 2007 and is available for use by retailers across the country.”).

¹⁶ TFI has attached an overview brochure that explains the ResponsibleAg program (Attachment A).

to preempt the time lag traditionally associated with agency rulemakings, enforcement, and even voluntary third party audits — the FGAN Guidelines present a condensed overview of the rules, best practices, and procedures that all fertilizer retail facilities should know if they sell AN fertilizer products. TFI already has made the FGAN Guidelines available to OSHA.¹⁷

Beyond outlining the storage and transportation rules that already apply to AN, the FGAN Guidelines offer guidance for facility-level planning activities, security and access controls, internal inspections, and other topics (*e.g.*, important electrical, vehicular, and structural safety issues) that are implicated by routinely handling AN products in a retail setting. TFI plans to work with its members and other stakeholders in the fertilizer industry to disseminate the FGAN Guidelines expeditiously to fertilizer retailers across the nation, consistent with TFI's longstanding efforts in this field.

Acknowledgement and public support of these efforts (whether formal or informal) by any of the WG's component agencies would help TFI and ARA urge fertilizer retail facilities to review and enhance their compliance efforts internally while the federal process initiated by the EO matures during 2014. For example, the WG could bolster these efforts by promoting special recognition of fertilizer companies that successfully comply with ResponsibleAg and the FGAN Guidelines for purposes of OSHA compliance. Specifically — much like OSHA's Voluntary Protection Program ("VPP") officially recognizes the exemplary safety and health performance of specific work sites that have gone "above and beyond" minimum OSHA requirements¹⁸ — the WG should encourage its agencies to grant special recognition to businesses that successfully comply in all respects with these voluntary efforts.

IV. DHS'S SECURITY REGULATIONS

DHS's CFATS already plays a critical role in securing AN as it travels through the stream of commerce. Similarly, after necessary revisions and promulgation through a final rulemaking, DHS's ANSP will help fill several regulatory voids that should be addressed to help prevent security risks raised by AN and specific types of AN "mixtures" (*e.g.*, "blends," versus homogeneous fertilizer prill). Below, TFI has outlined specific revisions to these two bodies of DHS security rules that should help prevent possible mismanagement or misappropriation of AN at facilities in the fertilizer industry — particularly at facilities that may be similar to the one associated with the West Fertilizer incident.

¹⁷ TFI has attached the FGAN Guidelines to these comments for the WG's consideration (Attachment B). TFI announced the publication of the FGAN Guidelines on March 6, 2014. See TFI, "Agricultural Retailers Association and The Fertilizer Institute Join Forces to Promote a Culture of Safety and Security at the Nation's Retail Fertilizer Outlets" (March 6, 2014), <http://www.tfi.org/media-center/news-releases/agricultural-retailers-association-and-fertilizer-institute-join-forces-p>.

¹⁸ See, *e.g.*, OSHA VPP Website, <https://www.osha.gov/dcsp/vpp/> (last visited March 29, 2014) ("VPP participants are exempt from OSHA programmed inspections while they maintain their VPP status.")

A. TFI Encourages DHS to Expand the Regulation of “Fertilizer Grade” AN, While Maintaining Deferral of CFATS for Agricultural Production Facilities

1. TFI Recommends that DHS Regulate “Fertilizer Grade” AN, Whether or Not in “Transportation Packagings,” under the Current “Theft/Diversion” Scenario

The CFATS regulations currently do not address the factual circumstances that culminated in the West Fertilizer incident, but straightforward regulatory amendments could bring such facilities (and relevant AN materials) within the ambit of CFATS.¹⁹ Consistent with its history of working with DHS and other agencies, TFI could accept such amendments to better secure the movement and storage of AN, as described below.

As background, DHS’s CFATS List designates as a “chemical of interest” (“COI”) “Ammonium nitrate, solid [nitrogen concentration of 23% or greater]” for possible theft or diversion as an explosive or improvised explosive.²⁰ We refer to this COI as “fertilizer grade” AN, in contrast to AN used for explosives manufacturing. DHS intended the COI for fertilizer grade AN to address “the more common form of AN in solid form with a nitrogen concentration of 23% or greater . . . [that] is largely used in the agricultural community and in amounts that typically exceed 400 pounds.”²¹ DHS selected 2,000 pounds as the appropriate STQ due to “the circumstances surrounding its use (*i.e.*, extensive use in the agricultural industry)” — more specifically, DHS catered this fertilizer STQ “toward ensuring that DHS secures AN inventories at *major manufacturing and distribution* facilities, as opposed to *individual farmers* involved mainly in the application of AN,” because “terrorists are interested in maximizing death and injuries from an attack and are, therefore, less interested in attacking facilities in rural areas or other areas with low population densities.”²²

Contrariwise, for AN qualifying as a U.S. Department of Transportation (“DOT”) Division 1.1 “explosive,”²³ DHS created a separate COI that anticipated “two security issues: Theft/diversion-EXP/IEDP,” *plus* “release-explosive.”²⁴ In light of its approach to other Division 1.1 explosives, DHS selected a STQ of 5,000 pounds for this “explosive grade” AN (or, 400 pounds of such AN in transportation packagings), and distinguished it from fertilizer grade AN.²⁵ On balance, this binary approach to AN recognized “that AN is integral to the agriculture

¹⁹ See WG Solicitation at 9 (Option 1.b) (anticipating possible changes to the regulation of AN under CFATS).

²⁰ 6 C.F.R. Part 27, App. A.

²¹ See 72 Fed. Reg. 65,396, 65,407 (Nov. 20, 2007).

²² See *id.* (emphasis added).

²³ See 49 C.F.R. § 172.101.

²⁴ See 72 Fed. Reg. at 65,407.

²⁵ See *id.*; see also *id.* at 65,397 (explaining that, across all of CFATS, “in identifying the chemicals and STQs for chemicals, the Department sought to strike an appropriate balance: Sufficiently inclusive of chemicals in quantities that might present a high level of risk under the statute without being overly inclusive and thereby capturing facilities that are unlikely to present a high level of risk.”).

and explosives industries, yet also seeks to satisfy the DHS mandate to enhance the security of facilities that present a high level of risk.²⁶

Importantly, for COIs that DHS selected solely to identify potential “theft/diversion” risks, it decided that facilities *only* should count toward a STQ those quantities “that are in a transportation packaging . . . which refers to ‘a receptacle and any other components or materials necessary for the receptacle to perform its containment function in conformance with the minimum packing requirements’ . . . [such as] cylinders, bulk bags, bottles inside or outside of a box, cargo tanks, and tank cars.”²⁷ DHS did not apply this same “transportation packaging” caveat with respect to counting COIs that raised possible risks of an explosive “release,”²⁸ reasoning that they were “chemicals with the potential to affect populations within and beyond the facility if intentionally detonated,” such as causing a “mass explosion hazard is one which affects almost the entire load instantaneously” (presumably, irrespective of their packaging, transportability, or susceptibility to misuse).²⁹

Under the procedural rules of the current CFATS regulations, a facility must complete and submit a “top-screen” to DHS if it meets or exceeds the relevant STQ for a listed COI, including both “explosive” and/or “fertilizer grade” AN.³⁰ In turn, DHS’s access to top-screen information can pave the way for developing Security Vulnerability Assessments, Site Security Plans, and similar security-related evaluations at “high-risk facilities” to reduce or eliminate the relevant risks.³¹ On the other hand, facilities that do not exceed the relevant STQ are not obligated to submit a top-screen, or otherwise initiate the CFATS assessment process — *e.g.*, because they only store COIs that present theft/diversion risks, but are not contained in any “transportation packagings.”

TFI recommends regulatory amendments to Appendix A of 6 C.F.R. Part 27 to qualify the COI designation for fertilizer grade AN (*i.e.*, “Ammonium nitrate, solid [nitrogen concentration of 23% or greater]”) to continue to identify it as a “theft/diversion” risk, but designate a specific STQ of 2,000 pounds for fertilizer grade AN, whether or not it is stored in “transportation packagings,” or bulk. This straightforward amendment to the CFATS rules for fertilizer grade AN would render much more fertilizer grade AN subject to 6 C.F.R. § 27.204(a)(3), thereby removing the “transportation packagings” caveat to counting STQs, and clearly bring more fertilizer retail facilities within the ambit of CFATS (irrespective of the type of packagings, or lack of packagings, used for on-site storage). TFI believes that this expansion of CFATS will help DHS and covered facilities identify and evaluate possible risks that, otherwise, would not be susceptible to a top-screen or an ensuing security analysis at DHS’s direction.

Nevertheless, due to the still-pressing need to strike a proper balance between “major manufacturing and distribution facilities, as opposed to individual farmers involved mainly in the

²⁶ See *id.* at 65,410.

²⁷ See *id.* at 65,399 (citing 6 C.F.R. § 27.203(c); 49 C.F.R. § 171.8).

²⁸ See 6 C.F.R. § 27.204(a)(3) (“For each release-explosive chemical of interest, a facility shall count the total quantity of all commercial grades of the chemical of interest toward the STQ . . .”).

²⁹ See 72 Fed. Reg. at 65,387, 65,402.

³⁰ See 6 C.F.R. § 27.200(b)(2).

³¹ See, *e.g.*, *id.* § 27.215.

application of AN³² (as DHS correctly acknowledged in 2007), TFI believes that the above expansion of Appendix A of 6 C.F.R. Part 27 should not be over-extended to impact individual agricultural production facilities. TFI elaborates on this important distinction below.

2. TFI Recommends that DHS Maintain its Deferment of CFATS for Agricultural Production Facilities (*i.e.*, Farmers) that are Not Germane to the EO

As observed by the WG,³³ DHS issued a top-screen filing extension for agricultural production facilities in 2008 through a *Federal Register* notice³⁴ based on a letter it distributed to interested parties at the end of 2007. As announced in the letter and DHS's formal decision (issued pursuant to 6 C.F.R. § 27.210(c)):

- (1) Until further notice, or unless otherwise specifically notified in writing by DHS, the Top-Screens will not be required for any facility that is required to submit a Top-Screen solely because it possesses any Chemical of Interest, at or above the applicable screening threshold quantity, for use—
 - (a) in preparation for the treatment of crops, feed, land, livestock (including poultry) or other areas of an agricultural production facility; or
 - (b) during application to or treatment of crops, feed, land, livestock (including poultry) or other areas of an agricultural production facility;
- (2) This extension applies to facilities such as farms (*e.g.*, crop, fruit, nut, and vegetable); ranches and rangeland; poultry, dairy, and equine facilities; turfgrass growers; golf courses; nurseries; floricultural operations; and public and private parks.
- (3) This extension does not apply to chemical distribution facilities, or commercial chemical application services.

This deferment of the CFATS implementation for the small actors listed above was based, in part, on the successful passage of the Department of Homeland Security Appropriations Act of 2008,³⁵ which authorized the ANSP. As noted above, TFI supported that enactment, and has continued to coordinate with DHS in its rulemaking to finalize the ANSP.

Clearly, the agricultural production facilities (*i.e.*, farms) and other small actors identified in DHS's 2008 deferment did not cause or contribute to the West Fertilizer incident. Similarly, even if it were feasible or appropriate to withdraw this deferment (which it is not), subjecting such small facilities to CFATS in the near term would not likely prevent a similar incident.

³² 72 Fed. Reg. at 65,407.

³³ See WG Solicitation at 10 (Option 1.c).

³⁴ See 73 Fed. Reg. 1,640 (Jan. 9, 2008).

³⁵ See *id.* at 1,640.

Thus, withdrawing the deferment would be a misallocation of DHS's resources. Those resources would be better spent improving the current status of AN under Appendix A of 6 C.F.R. Part 27 by identifying fertilizer grade AN as a possible "theft/diversion" risk without consideration of how the AN is stored, and thereby expanding CFATS coverage to facilities that are germane to the EO. Finally, by its own terms, DHS's deferment of CFATS for small actors in 2008 would not be applicable to these larger facilities, which are not agricultural production facilities; hence, DHS does not even need to modify the current deferment.

TFI therefore recommends that DHS not disturb its 2008 deferment of CFATS for small actors, and instead focus its attention on TFI's other proposals for enhancing the security of AN. A central aspect of this effort to secure AN across the United States will involve finalizing revisions to DHS's long-awaited ANSP.

B. TFI Encourages DHS to Finalize the ANSP

As noted above, TFI has steadfastly supported the development of the ANSP from its inception, and briefly summarizes its most recent public comment on the ANSP below.³⁶ DHS already should be aware of these necessary refinements due to the administrative record for the ANSP rulemaking and its coordination with TFI related to that rulemaking. Thus, we summarize TFI's ANSP comments here primarily for the benefit of the WG.³⁷

As a practical matter, TFI understands that the delay of DHS's long-awaited promulgation of a final ANSP has resulted, in part, from DHS's attempt to distinguish various "mixtures" of AN accurately and reliably within the fertilizer industry. This was one of the most important issues raised in TFI's ANSP comments. TFI reiterates its support for finalizing the ANSP, subject to these and other necessary refinements to DHS's Proposed Rule from August of 2011.³⁸

In brief, TFI's ANSP comments identified the following overarching issues that should be resolved in the final version of the ANSP, and offered proposed changes to DHS's Proposed Rule on those points:

- i. Section 563 of the Fiscal Year 2008 Homeland Security Appropriations Act, Pub. L. No. 110-161 (Dec. 26, 2007) (hereinafter "Subtitle J") created both substantive and procedural consultation requirements "to *ensure* that the access of agricultural producers to ammonium nitrate is not unduly burdened."³⁹ At the time of the ANSP Proposed Rule, this mandatory consultation had not yet occurred in earnest.

³⁶ TFI hereby incorporates by reference "The Fertilizer Institute's Comments on The Notice of Proposed Rulemaking to Establish an 'Ammonium Nitrate Security Program' (Docket No. DHS-2008-0076)" (Dec. 2011) (hereinafter, "TFI's ANSP comments"), available at <http://www.regulations.gov/#!documentDetail;D=DHS-2008-0076-0087>, in addition to TFI's attachments to its comments, and TFI's other contributions to the administrative record for that ongoing rulemaking (see Docket. No. DHS-2008-0076), available at <http://www.regulations.gov/#!docketDetail;D=DHS-2008-0076>.

³⁷ See WG Solicitation at 9-10 (Options I.a, 1.e).

³⁸ 76 Fed. Reg. 46,908 (Aug. 3, 2011).

³⁹ See Subtitle J, § 899B(g) (emphasis added).

- ii. The ANSP Proposed Rule was written to cover virtually any “mixtures” containing 30 percent or more AN that is 33 percent or more solid AN,⁴⁰ which would result in ambiguity and vagueness as applied to “mixtures” of AN in the fertilizer industry, even in cases where such mixtures were not detonatable (and thus, irrelevant to the ANSP). As initially described by DHS, such “mixtures” could be construed to cover both (1) homogeneous “mixtures” (e.g., globular fertilizer prills) containing AN, and (2) non-homogeneous “blends” of AN (which, in some cases, can be misused to create more concentrated AN). Such “mixtures” raise very different definitions and security concerns within the fertilizer industry.⁴¹
- iii. The obligations applicable to AN “facilities” and “sellers” were unclear under the ANSP Proposed Rule, creating untenable confusion regarding the number of persons who would be required to register for the ANSP.
- iv. The ANSP Proposed Rule would leave it to the regulated community to develop yet-unidentified “internal reporting procedures” for “ensuring” that the theft or loss of AN is reported in a timely manner, despite the immediate imputed knowledge of such losses to certain persons at the facility (and resulting liability).⁴²
- v. There was no useful definition for an “unexplained loss” of AN under the ANSP Proposed Rule (versus an “explained loss” of AN) that would offer any legal protection to registrants seeking to comply with their reporting obligations after such losses.
- vi. Other provisions of the ANSP Proposed Rule would create inspection and audit procedures that would raise serious practical concerns, and obligate companies to compile inherently-sensitive production, inventory, sales, and other records in a single electronic file to be transmitted through potentially non-secure channels.
- vii. The ANSP’s Proposed Rule would create obligations for AN “purchasers” that are vague, burdensome, and in some cases irrelevant to the objectives of Subtitle J. For example, the definition of a “sale or transfer” of AN did not impose a clear timeframe or trigger for verification of AN Purchaser information, or account for common types of fertilizer transfers to or among farmers.

⁴⁰ 76 Fed. Reg. at 46,915-17, 46,949.

⁴¹ According to the Association of American Plant Food Control Officials (“AAPFCO”), “mixed fertilizer” is a term that encompasses any combination of fertilizer materials, whether it is a blended fertilizer, homogeneous fertilizer, or other combined nutrient product. See AAPFCO, “Official Publication,” at 33 (2008) (“The term ‘mixed fertilizer’ means fertilizer containing any combination or mixture of fertilizer materials.”). However, according to AAPFCO, the “term ‘blending’ means the physical mixing or combination of: one (1) or more fertilizer material(s) and one (1) or more filler material(s); two (2) or more fertilizer materials; two (2) or more fertilizer materials and filler materials, including mixing through the simultaneous or sequential application of the outlined combinations listed herein, to produce a uniform mixture.” See *id.* (citing AAPFCO, “Official Publication” (2007)).

⁴² See 76 Fed. Reg. at 46,934, 46,954.

- viii. A blanket exemption in the ANSP Proposed Rule for a “25 pound threshold weight” of AN, as calculated by the total mass of the product exchanged (*i.e.*, rather than the percentage of nitrogen or AN in the “mixture” or “blend” of fertilizer involved), did not create any apparent benefits for AN Purchasers or AN security, generally.
- ix. The terms of the ANSP Proposed Rule clashed with existing AN transportation laws (*e.g.*, DOT and U.S. Coast Guard rules), but easily could be made consistent with those other programs. To illustrate: despite a round “30 percent” figure selected by DHS as a concentration threshold for AN (including in “mixtures”), CFATS was designed to regulate AN that had a “nitrogen concentration of 23% nitrogen or greater,” as already explained *supra*. This raised a concern that DHS misunderstood the relationship between nitrogen (which usually exists at a 33% concentration within pure AN) and AN concentrations under the CFATS regulations. Further, DHS did not disclose its methods for proposing the 30% threshold.
- x. On balance, the ANSP Proposed Rule would unduly burden access to AN by agricultural end-users, which Congress expressly sought to avoid by including Section 899B(g) within the final version of Subtitle J. This undue burden would result primarily from: (1) the proposed process for DHS’s authorization of individual transfers of AN; (2) the registration and transfer requirements that were proposed for small farmers and companies; and (3) actual cost estimates submitted to the administrative record.

Included in TFI’s ANSP comments were concrete proposals to correct these issues and other miscellaneous concerns raised by the ANSP Proposed Rule. For example, TFI specifically proposed in 2011 that DHS conform the percentage-based thresholds for the ANSP with (1) the respective percentages in the CFATS regulation, and/or (2) DOT’s classification for Division 5.1 “oxidizers,” both of which were based upon extensive prior studies of AN’s potential detonatability, and would help streamline the myriad federal rules applicable to AN.

TFI has offered an expanded discussion of these points from TFI’s ANSP comments to DHS as the rulemaking process has progressed beyond 2011. Similarly, as summarized in the next section of our comments, TFI previously has proposed and explained very similar options for improving OSHA’s regulations (*e.g.*, by invoking the existing framework for classifying AN and AN mixtures as DOT Division 5.1 “oxidizers,” as TFI did for DHS). TFI also has identified several opportunities to harmonize existing regulations that already are applicable to fertilizer facilities.

As the WG reviews these comments, TFI would like to emphasize that it welcomes the same level of cooperation directly with the WG and its component agencies as they coordinate their actions to implement the EO.

V. OSHA'S PSM STANDARD

A. AN Is Not Compatible with a "Functional Group" Approach, and 29 C.F.R. § 1910.109(i) Is Better Suited for AN at Fertilizer Facilities than the PSM Standard

In response to a recent OSHA Request for Information ("RFI") relevant to the EO,⁴³ TFI has proposed to address AN and AN mixtures that present a *bona fide* risk of major chemical accidents through OSHA's specific regulations at 29 C.F.R. § 1910.109(i) after necessary amendments to its applicability provisions. As set forth in its detailed response to that RFI, TFI currently believes that section 1910.109(i) is a better vehicle for enhancing regulation at fertilizer manufacturing, distribution, wholesale, and retail facilities than other alternatives, including the PSM Standard.⁴⁴

As background, OSHA's PSM List⁴⁵ does not currently list AN or any mixtures of AN. When OSHA initially selected the reactive chemicals for its PSM List, OSHA relied in part upon NFPA Standard 49-1975 and ultimately listed all but six chemicals having reactivity ratings of either "3" or "4."⁴⁶ AN was one of the six potentially "reactive" chemicals listed in the contemporaneous NFPA Standard that OSHA did not add to the PSM List. This apparently was because OSHA was amending 29 C.F.R. § 1910.109 to make it clear that the manufacture of explosives (other than blasting agents) and pyrotechnics must also meet the requirements of the PSM Standard — thus, AN in facilities with explosives operations already would be regulated via 29 C.F.R. § 1910.109(i).⁴⁷ Accordingly, at the time that the PSM Standard was promulgated, there was no need for OSHA to include AN in the PSM List. Similarly, with the modifications to 29 C.F.R. § 1910.109(i) suggested by TFI to address certain AN and AN mixtures at fertilizer manufacturing, distribution, wholesale, and retail facilities, there is no need for OSHA now to include AN on the PSM List.

As set forth in TFI's RFI comments to OSHA, attempting to regulate all chemical and physical combinations of AN under the PSM Standard would impact a vast array of innocuous products, such as countless mixtures of fertilizer (many of which are custom-blended for specific farmers (as end users)) and other harmless items moving through commerce. For similar reasons, targeting a specific range of AN and AN mixtures among all hypothetical combinations thereof would not be simplified by adopting a reactive "functional group" approach, such as the one

⁴³ See generally 78 Fed. Reg. 73,756 (Dec. 9, 2013) ("Request for Information: Process Safety Management and Prevention of Major Chemical Accidents") & Dkt. No. OSHA-2013-0020.

⁴⁴ See *id.*, "The Fertilizer Institute's Comments on the Request for Information Entitled 'Process Safety Management and Prevention of Major Chemical Accidents'" (March 31, 2014) (comment tracking no. 1jy-8b9s-qc4q) (hereinafter "TFI's RFI comments"), available at <http://www.regulations.gov/#:docketDetail=D=OSHA-2013-0020>. We hereby incorporate by reference TFI's RFI comments, which set forth TFI's proposals for OSHA in detail.

⁴⁵ See 29 C.F.R. § 1910.119, App. A.

⁴⁶ Compare 57 Fed. Reg. 6,403, 6,407-08 (Feb. 24, 1991) with NFPA 49-1975. Notably, the NFPA currently assigns an "instability" rating of 3 (range of 0 to 4) to AN, which is the same instability/reactivity rating assigned to AN in NFPA 49-1975. See NFPA 49-1975 at 50.

⁴⁷ See 57 Fed. Reg. 6,356, 6,368-69 (Feb. 24, 1992).

adopted by New Jersey (which, tellingly, does not list AN).⁴⁸ For instance, the U.S. Chemical Safety and Hazard Investigation Board's ("CSB's") "Hazard Investigation: Improving Reactive Hazard Management" report ("CSB Report")⁴⁹ concluded that "EPA was unable to determine any inherent characteristic as an indicator of reactivity" when developing its Accidental Release Prevention Requirements,⁵⁰ because, according to the CSB, "EPA concluded there was 'insufficient technical information for developing criteria for identifying reactive substances.'"⁵¹ Subsequently, TFI has not been made aware of new studies showing that actual technical information regarding "reactive" substances has changed fundamentally, including with respect to AN and AN mixtures. In fact, the available technical information is nearly identical to the information OSHA had at its disposal when it promulgated the PSM List in 1992.⁵²

Due to the extensive regulations that already are applicable to the fertilizer industry,⁵³ TFI believes that adding greater specificity to existing regulations would be a better method to address AN and AN mixtures than trying to address AN and AN mixtures under the PSM Standard. Specifically, TFI suggests that OSHA expand the applicability of 29 C.F.R. § 1910.109(i) to cover fertilizer manufacturing, distribution, wholesale, and retail facilities for AN and AN mixtures that qualify as DOT Division 5.1 "oxidizers."⁵⁴ Because DOT's classification rule for "oxidizers" has been in place since 1997 for DOT purposes,⁵⁵ it likely would facilitate more efficient identification of AN and AN mixtures that pose a *bona fide* risk of a major chemical accident. Moreover, because DOT's classification rule for "oxidizers" already is applied to materials prepared for shipment, it will help streamline the rules promulgated by the WG's component agencies. Accordingly, OSHA's incorporation of this "oxidizer" rule from DOT to AN and AN mixtures also would help the WG comply with Executive Order 3822, in which the President directed agencies to pursue such opportunities for coordination.⁵⁶

⁴⁸ See N.J. STAT. ANN. ("N.J.S.A.") § 13:1K-19 *et seq.*; N.J. ANN. CODE. ("N.J.A.C.") § 7:31-6.3.

⁴⁹ See CSB, "Hazard Investigation: Improving Reactive Hazard Management" (Oct. 17, 2002) (the "CSB Report"), available at <http://www.csb.gov/assets/1/19/ReactiveHazardInvestigationReport.pdf>.

⁵⁰ See 40 C.F.R. Part 68, commonly referred to as the "RMP."

⁵¹ See CSB Report at 60.

⁵² See 57 Fed. Reg. at 6,368-69; see also CSB Report at 87 (concluding that "NFPA instability ratings are insufficient as the sole basis for determining coverage of reactive hazards in the OSHA PSM Standard").

⁵³ For instance, as already noted at the outset of these comments, 29 C.F.R. § 1910.119, Appendix A, already regulates anhydrous ammonia. Thus, certain entities in the fertilizer industry already comply with the PSM Standard. However, for reasons set forth below, it would not be appropriate to impose such detailed requirements at smaller fertilizer facilities. Thus, TFI suggests expanding and/or updating more specific OSHA requirements (*i.e.*, 29 C.F.R. § 1910.109(i)) to address facilities that merely store, handle, and mix AN later in the chain of commerce, based on an "oxidizer" approach, as discussed below.

⁵⁴ See 49 C.F.R. § 173.127 (defining a DOT Division 5.1 "oxidizer" as "a material that may, generally by yielding oxygen, cause or enhance the combustion of other materials. (1) A solid material is classed as a Division 5.1 material if, when tested in accordance with the UN Manual of Tests and Criteria . . . its mean burning time is less than or equal to the burning time of a 3:7 potassium bromate/cellulose mixture. (2) A liquid material is classed as a Division 5.1 material if, when tested in accordance with the UN Manual of Tests and Criteria, it spontaneously ignites or its mean time for a pressure rise from 690 kPa to 2070 kPa gauge is less than the time of a 1:1 nitric acid (65 percent)/cellulose mixture.").

⁵⁵ See 62 Fed. Reg. 24,732, 24,732 (May 6, 1997).

⁵⁶ See Exec. Order No. 3822, § 3 (Jan. 21, 2011) ("Some sectors and industries face a significant number of regulatory requirements, some of which may be redundant, inconsistent, or overlapping. Greater coordination across agencies could reduce these requirements, thus reducing costs and simplifying and harmonizing rules. In developing regulatory actions and identifying appropriate approaches, each agency shall attempt to promote such

B. TFI Suggests that OSHA Expand the Applicability of 29 C.F.R. § 1910.109(i) to Cover Fertilizer Manufacturing, Distribution, Wholesale, and Retail Facilities for “Oxidizer” AN and AN Mixtures, Provided that OSHA Retains the PSM “Retail Facilities” Exemption

OSHA’s body of existing guidance on the “retail facilities” exemption at 29 C.F.R. § 1910.119(a)(2)(i) makes it clear that fertilizer retail facilities that receive 50% or more of their income from sales of fertilizer to “end users” (*i.e.*, farmers) should be exempt from the PSM Standard. This also is made clear by OSHA’s current guidance for inspectors. Thus, provided that OSHA retains the “retail facilities” exemption, TFI suggests that OSHA expand the applicability of 29 C.F.R. § 1910.109(i) to cover fertilizer manufacturing, distribution, wholesale, and retail facilities that store and sell AN and AN mixtures that qualify as DOT “oxidizers.” Importantly, this approach would be consistent with a letter written by OSHA in February of 2014 to the fertilizer industry, generally.⁵⁷ Furthermore, OSHA specifically cited “29 C.F.R. § 1910.109” in its public regulatory agenda for its RFI.⁵⁸ Conceptually, TFI agrees that formal rulemaking to improve that regulation is central to improving the safe and secure handling of AN.

As explained in detail below, a sudden, diametric reversal of OSHA’s position on “retail facilities” would raise substantial problems as a matter of administrative law, and, practically speaking, impose an undue burden on the fertilizer industry. First, as a conceptual matter, facilities or individuals that come later in the stream of commerce usually do not possess operations that are relevant to the PSM Standard. Instead, larger facilities usually are in a better position to track chemicals that may ultimately be produced into “highly hazardous chemicals,” and manage them appropriately. Additionally, those facilities usually possess greater technical resources for identifying “oxidizers” and other hazardous chemicals. This is especially accurate with respect to AN, given that a large percentage of AN is involved with farming. Importantly, OSHA has recognized that the PSM Standard was designed to apply “mainly to manufacturing industries.”⁵⁹ Thus, it would be a particularly poor fit at small, rural retail facilities that are highly specialized to serve the needs of individual, local farmers. Thus, with respect to all fertilizer manufacturing, distribution, wholesale, and retail facilities that handle and store AN, TFI suggests that OSHA expand of the applicability of 29 C.F.R. § 1910.109(i).

coordination, simplification, and harmonization. Each agency shall also seek to identify, as appropriate, means to achieve regulatory goals that are designed to promote innovation.”)

⁵⁷ See Letter from Dr. David Michaels, Assistant Secretary for Occupational Safety and Health, to Fertilizer Industry Employer (Feb. 10, 2014), available at https://www.osha.gov/dep/fertilizer_industry/letter_fertilizer_industry.html; OSHA, “Trade News Release: OSHA Partners with Fertilizer Industry to Get Message out on Chemical Safety” (Feb. 10, 2014), available at https://www.osha.gov/pls/oshaweb/owadispl.show_document?p_table=NEWS_RELEASES&p_id=25578.

⁵⁸ See U.S. Office of Information and Regulatory Affairs Reginfo.gov Website, RIN: 1218-AC82, <http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201310&RIN=1218-AC82> (last visited February 28, 2013).

⁵⁹ See OSHA, “Fact Sheet: PSM of Highly Hazardous Chemicals,” at 1 (2002), available at https://www.osha.gov/OshDoc/data_General_Facts/highly-hazardous-chemicals-factsheet.pdf.

However, because the current provisions of 29 C.F.R. § 1910.109(i) only are applicable to AN involved in the manufacture of explosives or blasting agents (pursuant to the plain language and regulatory history of section 1910.109, as well as OSHA's own interpretations thereof⁶⁰), TFI proposes: (1) requesting that fertilizer manufacturing, distribution, wholesale, and retail facilities begin complying with section 1910.109(i) on a voluntary basis immediately, assuming OSHA agrees to preserve the "retail facilities" exemption; and, (2) that OSHA develop regulatory amendments to expand the current scope of 29 C.F.R. § 1910.109(i) to cover such facilities, because they currently are beyond its scope. OSHA should initiate formal rulemaking to cure this issue.

1. **OSHA's Longstanding Guidance on the "Retail Facilities" Exemption**

OSHA's existing guidance shows that the WG should support preserving the "retail facilities" exemption, and that the exemption currently applies to facilities that obtain more than half of their income from sales to end users. To recap the history of this exemption, OSHA first proposed the PSM Standard on July 17, 1990, with an exemption for "retail facilities."⁶¹ OSHA explained that such facilities pose a substantially lower probability of suffering a major chemical accident.⁶² Thus, OSHA proposed that the PSM Standard requirements not apply to such "retail facilities," but did not expressly define their scope in the proposal.⁶³ In the final PSM Standard rule, OSHA retained the full "retail facilities" exemption without alteration.⁶⁴

OSHA has echoed this position in its guidance for inspectors,⁶⁵ including its current guidance.⁶⁶ This discussion in OSHA's guidance for inspectors is decisive because OSHA states that it establishes "uniform policies, procedures, standard clarifications, and compliance guidance for enforcement of the Standard for Process Safety Management of Highly Hazardous Chemicals, 29 CFR 1910.119 ('PSM Standard'), and amendments to the Standard for Explosives and Blasting Agents, 29 CFR 1910.109."⁶⁷ Apart from this generally-applicable interpretation, OSHA also

⁶⁰ See, e.g., 72 Fed. Reg. 18,792, 18,806 (Apr. 13, 2007) (proposing to make it abundantly clear that the requirements of section 1910.109(i) apply solely to AN "to be used in the manufacture of explosives").

⁶¹ See generally 55 Fed. Reg. 29,150.

⁶² See *id.* at 29,153 ("OSHA does not believe that retail facilities . . . present the same degree of hazard to employees as those workplaces in (b)(1) [of the proposed PSM Standard], that would require a comprehensive hazard analysis and management system. Certainly, highly hazardous chemicals may be present in [retail facilities] operations. However, regarding retail facilities, chemicals are in smaller volume packages, containers and allotments, making a massive release unlikely.").

⁶³ *Id.*

⁶⁴ See 57 Fed. Reg. 6,356 (Feb. 24, 1992).

⁶⁵ See OSHA, "Process Safety Management of Highly Hazardous Chemicals: Compliance Guidelines and Enforcement Procedures" (Sept. 28, 1992).

⁶⁶ See OSHA, "Process Safety Management of Highly Hazardous Chemicals: Compliance Guidelines and Enforcement Procedures" (Sept. 13, 1994) (CPL 02-02-045A) ("[Question:] What is the definition of "retail facilities" that are exempted from coverage by the PSM standard? [Answer:] With respect to enforcement of the PSM standard, a retail facility means an establishment that would otherwise be subject to the PSM standard *at which more than half of the income is obtained from direct sales to end users.*") (emphasis added), available at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=1558.

⁶⁷ *Id.*

has provided numerous site-specific interpretations to individual entities that have raised questions regarding the scope of 29 C.F.R. § 1910.119(a)(2)(i). In fact, contemporaneously with OSHA's promulgation of the PSM Standard, OSHA provided specific confirmation to TFI that specific types of fertilizer operations were exempt as "retail" facilities.⁶⁸

According to OSHA's specific guidance to TFI, "a retail facility means an establishment, which would otherwise be subject to the PSM Standard, *at which more than half of the income is obtained from direct sales to end users.*"⁶⁹ Subsequently, OSHA has cited other interested parties to the guidance it provided to TFI.⁷⁰ Most recently, OSHA's RFI appeared to reaffirm this longstanding position regarding the clear meaning of a "retail facility" for purposes of this exemption,⁷¹ after issuing one inconsistent letter in 2005. TFI has expressly urged OSHA to avoid changing the "retail facilities" exemption during its possible actions to implement the EO for several reasons (for instance, as set forth in TFI's RFI comments, abruptly changing OSHA's longstanding interpretation of the exemption through anything other than a formal rulemaking would run afoul of applicable administrative law). Importantly, TFI's members have relied upon this exemption to develop and organize their businesses, and would suffer undue hardship if OSHA abruptly changed the exemption.⁷²

Consistent with the specific confirmation that OSHA provided to TFI on this subject,⁷³ as well as the more detailed analysis set forth in TFI's RFI comments, TFI believes that the most reasonable approach for OSHA to adopt is expanding the applicability of 29 C.F.R. § 1910.109(i) to cover fertilizer manufacturing, distribution, wholesale, and retail facilities (which, ultimately, will need to be supported by a straightforward expansion of that regulation's scope through rulemaking). A summary of TFI's analysis of the latter point is summarized below for the benefit of the WG.

⁶⁸ Letter from Gary Myers, TFI, to Dorothy Strunk, OSHA (March 27, 1992); Letter from Patricia K. Clark, Director, OSHA Directorate of Enforcement Programs, to Gary Myers, TFI (June 19, 1992) (emphasis added) (hereinafter, the "Clark Letter"), available at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=20712.

⁶⁹ See Clark Letter (emphasis added).

⁷⁰ See Letter from Richard E. Fairfax, Director, OSHA Directorate of Compliance Programs, to J.D. Varn III, Vice-President Varnco, Inc. (Jan. 26, 2001) (stating that "you meet OSHA's retail exemption standard because you obtain more than half (>50%) of your income, i.e., 75% from sales of NH₃ to direct end users – farmers."), available at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=23885.

⁷¹ See 78 Fed. Reg. at 73,768 ("[Question] 78[.] Does your facility qualify for the PSM exemption for 'retail facilities' under OSHA's current enforcement policy? If so, would changing OSHA's enforcement policy to only exempt facilities in NAICS sectors 44 and 45 that sell highly hazardous chemicals in small containers, packages, or allotments to the general public result in PSM coverage for your facility?").

⁷² A specific example of these concerns is provided with these comments as Attachment C ("Comments from the McGregor Company Regarding Fertilizer Retail Facilities") to highlight the likely hardships that would be suffered by retailers if OSHA were to alter the "retail facilities" exemption to the PSM Standard.

⁷³ See Clark Letter (June 19, 1992) ("With respect to enforcement of the PSM Standard, a retail facility means an establishment, which would otherwise be subject to the PSM standard, at which more than half of the income is obtained from direct sales to end users. Fertilizer establishments meeting this criterion would be exempt from the requirements of 29 CFR 1910.119.").

VI. OSHA'S "EXPLOSIVES AND BLASTING AGENTS RULES" FOR AN

TFI suggests that OSHA expand the applicability of 29 C.F.R. § 1910.109(i) — specifically for fertilizer manufacturing, distribution, wholesale, and retail facilities storing and handling “oxidizer” AN or AN mixtures — provided that OSHA retains the longstanding “retail facilities” exemption to the PSM Standard. Moreover, TFI is willing to accept reasonable updates to section 1910.109(i) to modernize the safety practices relating to AN that were available in the 1970s, and ultimately were codified in the current rule. These changes would reflect a straightforward, effective, and closely-tailored approach to enhancing safety procedures at such facilities, unlike possible alterations to other regulatory requirements such as the PSM Standard or EPA’s RMP rules.

However, as a threshold matter, TFI believes that it is important to notify the WG of the distinctions between “explosives and blasting agents,” versus AN, as this relationship under OSHA’s regulations is more detailed than it initially appears. For this reason, a recent letter that OSHA composed to employers in the fertilizer industry cautiously described section 1910.109(i) as being among various “[s]tandards or guidelines” that are available to assist fertilizer facilities, despite OSHA’s prospective intention to enforce that section against “facilities in non-explosives industries.”⁷⁴ The history of section 1910.109 is central to its current applicability, requirements, and susceptibility to improvements that would support the objectives of the EO.

A. As Adopted by OSHA, 29 C.F.R. § 1910.109(i) was a Consensus Standard with Limited Applicability

As OSHA has accurately explained on prior occasions, section 1910.109(i) was intended to relate solely to facilities with AN “to be used in the manufacture of explosives,” or blasting agents associated with such explosives.⁷⁵ OSHA recently proposed to make this abundantly clear through rulemaking, but ultimately concluded that expending the resources to clarify the regulation “would have a limited safety and health benefit,” and thus, left it unchanged.⁷⁶

Lingering concerns regarding the scope of section 1910.109(i) could severely curtail OSHA’s authority to apply or enforce that regulation in the future. As background, when Congress first established OSHA, it authorized the Secretary of Labor “to set mandatory occupational safety and health standards applicable to businesses affecting interstate commerce.”⁷⁷ The initial set of these standards could bypass formal rulemaking if they were borrowed *verbatim* from “any national consensus standard.”⁷⁸ However, Congress circumscribed this authority by preventing

⁷⁴ See Letter from Dr. David Michaels, Assistant Secretary for Occupational Safety and Health, to Fertilizer Industry Employer (Feb. 10, 2014) (emphasis added) (listing 29 C.F.R. § 1910.109(i) as among the “[s]tandards or guidelines” currently available to fertilizer industry employers, and announcing for the first time that, in the future, OSHA “will enforce the requirements of 29 CFR 1910.109(i) for storage of ammonium nitrate including those facilities in non-explosives industries. OSHA standards set minimum safety and health requirements; the standards do not preclude employers from adopting more stringent requirements.”), available at https://www.osha.gov/dep/fertilizer_industry/letter_fertilizer_industry.html.

⁷⁵ See, e.g., 72 Fed. Reg. 18,792, 18,806 (Apr. 13, 2007).

⁷⁶ See 75 Fed. Reg. 5,545, 5,545-46 (Feb. 3, 2010).

⁷⁷ 29 U.S.C. § 651(b)(3).

⁷⁸ *Id.* § 655(a); see *Noblecraft Indus., Inc. v. Sec’y of Labor*, 614 F.2d 199, 203 (9th Cir. 1980).

OSHA from altering such source standards substantively (e.g., creating more expansive requirements) — otherwise, such changes would render the standards unenforceable.⁷⁹

Ultimately, OSHA promulgated section 1910.109 dealing with “explosives and blasting agents” on May 29, 1971,⁸⁰ based on NFPA 495-1970, “Code for the Manufacture, Transportation, Storage, and Use of Explosives and Blasting Agents,” as well as NFPA 490-1970, “Code for the Storage of Ammonium Nitrate” (the latter was adopted to create section 1910.109(i)).⁸¹ However, when borrowing language for the original version of section 1910.109, OSHA mistakenly omitted section 115 of NFPA 490-1970, which was a crucial “scope” section that made NFPA 490-1970 inapplicable to the production and storage of AN on a production plant site. This omission of the “scope” of the source standard was an impermissible substantive alteration; thus, this omission jeopardized present-day application and enforcement of the resulting regulation,⁸² which OSHA apparently acknowledged but failed to correct in 2010.

Specifically, OSHA proposed to clarify section 1910.109 in 2007⁸³ to acknowledge that OSHA only “intends the requirements to apply to ammonium nitrate that will be used in the manufacture of explosives.”⁸⁴ OSHA noted in that proposal that AN fertilizer is not an explosive or blasting agent, but can be used as an ingredient in an explosive,⁸⁵ but ultimately withdrew this proposal due to a lack of agency resources in 2010.⁸⁶ However, the need for this clarification remains equally important today: OSHA’s failure to create a proper “scope” provision for section 1910.109(i) left serious legal concerns in its wake. If OSHA hypothetically were to apply that section (or related portions of that regulation) to facilities beyond the scope of the original NFPA consensus standards, it would exceed OSHA’s statutory authority,⁸⁷ and preclude enforcement.

Therefore, even setting aside the structure and context of section 1910.109(i) in OSHA’s regulation governing “explosives and blasting agents,” it would be a major legal oversight to extend that section to facilities that only store and manage fertilizers — especially AN fertilizer production plants, which were excluded *in toto* from NFPA 490-1970.

B. Structurally, 29 C.F.R. § 1910.109(i) Regulates “Explosives and Blasting Agents,” Not Possible “Oxidizers” or Fertilizer

In addition to the above enforcement concerns, the current structure and context of 29 C.F.R. § 1910.109(i) are incompatible with typical operations at fertilizer manufacturing, distribution, wholesale, and retail facilities that do not handle explosives or blasting agents. Thus, as TFI

⁷⁹ See, e.g., *Diebold, Inc. v. Sec’y of Labor*, 585 F.2d 1327, 1332 (6th Cir. 1978); see also *Sec’y of Labor v. Kennecott Copper Corp.*, 577 F.2d 1113, 1117 (10th Cir. 1977).

⁸⁰ See 36 Fed. Reg. 10,465, 10,553-10562.

⁸¹ See, e.g., 75 Fed. Reg. at 5,545.

⁸² *Kennecott Copper*, 577 F.2d at 1118.

⁸³ See 72 Fed. Reg. 18,792 (Apr. 13, 2007).

⁸⁴ *Id.* at 18,806 (emphasis added).

⁸⁵ See *id.*

⁸⁶ See 75 Fed. Reg. at 5,545.

⁸⁷ See *Kennecott Copper*, 577 F.2d at 1117-18; *Sec’y of Labor v. Pittsburgh-Des Moines Steel Co.*, et al., 584 F.2d 638, 644 (3d Cir. 1978).

advocated to OSHA in TFI's RFI comments, the regulation's applicability must be expanded to cover such facilities through formal rulemaking.

OSHA's current rules in section 1910.109 clearly differentiate among "ammonium nitrate," "explosives," and "blasting agents."⁸⁸ First, under section 1910.109, a "blasting agent" is defined as "any material or mixture, consisting of a *fuel and oxidizer*" that is: (1) "intended for blasting," (2) "not otherwise classified as an explosive," and (3) "in which *none of the ingredients are classified as an explosive*," provided that (4) "the finished product, as mixed and packaged for use or shipment, cannot be detonated by means of a No. 8 test blasting cap when unconfined."⁸⁹ Second, the regulation defines an "explosive" as "any chemical compound, mixture, or device, the *primary or common purpose of which is to function by explosion . . .* [and] shall include all material which is classified as Class A, Class B, and Class C explosives by the U.S. Department of Transportation," unless "such compound, mixture, or device is otherwise specifically classified."⁹⁰ Thus, the above definitions of "explosive" and "blasting agent" are mutually exclusive based on the quoted text of section 1910.109(a)(1). Moreover, as a practical matter, they are mutually exclusive from AN that is manufactured and ultimately applied to the land solely as a fertilizer, inasmuch as fertilizer AN neither qualifies as a "fuel and oxidizer," nor is designed primarily or commonly to explode.

In turn, the regulation for "blasting agents" at section 1910.109(g) contains a discussion of AN as an "oxidizer" (*i.e.*, distinct from a "blasting agent"); that regulation sets common rules for both types of materials when stored in proximity.⁹¹ Consequently, OSHA's regulation suggests that even pure AN cannot qualify as a "blasting agent" alone, but that some mixtures thereof can qualify for reasons that are not pertinent to fertilizer products (*e.g.*, based on whether the mixture is "*intended for blasting*" under section 1910.109(a)(1), such as mixtures of AN and fuel oil).

Also, the title chosen by OSHA for 1910.109 in 1971, *i.e.*, "Explosives and Blasting Agents," was borrowed from NFPA 495-1970, and clearly reflects its intended scope. Obviously, section 1910.109(i) only applies when the AN in question is used as an ingredient in an explosive at explosives manufacturing facilities — not when fertilizer AN is at issue. Even if one were to overlook the history and organization of section 1910.109, there is not one iota of text to suggest that those provisions were intended to regulate agricultural facilities (such as farmers' barns or

⁸⁸ See, *e.g.*, 29 C.F.R. § 1910.109(i)(5)(ii)(b) ("Explosives and blasting agents shall not be stored in the same building with ammonium nitrate . . ."); see also Letter from Thomas J. Shepich, Director, OSHA Directorate of Compliance Programs, to Ronald H. Gaswirth, Gardere & Wynne (July 1, 1988) ("As the result of our review, . . . [OSHA] concludes that the Apex 1000 emulsion [destined for use as an explosive] which contains ammonium nitrate (76.36% by weight); water (15.64%); and oil and emulsifiers (8%); is regulated as an ammonium nitrate mixture which is not a blasting agent. Storage of the Apex 1000 shall, as a minimum, comply with the requirements specified at 29 CFR 1910.109(i) . . . However, OSHA recommends that storage comply with the requirements and recommendations of NFPA 490-1986, Code for the Storage of Ammonium Nitrate, copy enclosed, which describes the current industry state-of-art specifications"), available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=19691.

⁸⁹ See *id.* § 1910.109(a)(1) (emphasis added).

⁹⁰ See *id.* § 1910.109(a)(3) (emphasis added).

⁹¹ See *id.* §§ 1910.109(g)(2)(iv)(b) ("Oxidizers of small particle size, such as crushed ammonium nitrate prills or fines, may be more sensitive than coarser products and shall, therefore, be handled with greater care."), 1910.109(g)(5)(i)(a) ("Blasting agents or ammonium nitrate, when stored in conjunction with explosives, shall be stored in the manner set forth in paragraph (c) of this section for explosives.").

fertilizer silos), fertilizer retail facilities, or even bulk AN fertilizer manufacturing facilities (which, as noted, were expressly excluded *in toto* from NFPA 490-1970).

To help OSHA and other agencies fulfill the objectives of the EO without running afoul of the concerns identified above, TFI suggests a formal expansion of 29 C.F.R. § 1910.109(i) to cover fertilizer manufacturing, distribution, wholesale, and retail facilities through appropriate rulemaking, while retaining the “retail facilities” exemption to the PSM Standard. In the interim, TFI stands ready to promote and support voluntary compliance with 29 C.F.R. § 1910.109(i) at relevant fertilizer facilities nationwide.

VII. EPA’S RISK MANAGEMENT PROGRAM

A. As with OSHA, TFI Recommends that EPA Avoid Regulating AN or AN Mixtures Based on a “Functional Group” Approach to “Reactive” Chemicals

As already explained above, attempting to identify a narrow scope of AN products and mixtures would not be simplified by adopting a reactive “functional group” approach, such as the one in New Jersey. Such an approach would inaccurately apply a concept from organic chemistry that identifies common groups of atoms with certain types of presumably common chemical behaviors (*e.g.*, intrinsic behavior, such as self-decomposition, versus extrinsic behavior when groups of atoms interact with other chemicals). However, both nitrate and ammonium compounds/ions are ubiquitous in natural processes (*e.g.*, ammonium ion solutions within the urea cycle; or, nitrate ions in the nitrogen cycle) and various synthetic processes, and are legion in quantity, diversity, and uses. Most of those nitrate and ammonium compounds likely are incapable of causing large, energetic reactions that are germane to the EO or the WG Solicitation. In seeming confirmation of this scientific reality, even the highly nuanced “functional group” approach under New Jersey law currently does not identify AN as a reactive chemical, or otherwise address its elements through a specific “functional group.”⁹²

Specifically with respect to EPA, a nebulous “functional group” approach also would be directly contrary to its statutory authority for the RMP.⁹³ As background, section 112(r) of the CAAA required EPA to publish regulations, guidance, and a “list” of “substances which pose the greatest risk of causing death, injury, or serious adverse effects to human health or the environment from accidental releases.”⁹⁴ EPA’s regulations were intended to “prevent the accidental release and to minimize the consequences of any such release of any substances list[ed] by EPA.”⁹⁵

⁹² See N.J.S.A. § 13:1K-22 (“Extraordinarily Hazardous Substance List”); N.J.A.C. § 7:31-6.3.

⁹³ We note that the Clean Air Act Amendments of 1990 (“CAAA”) (42 U.S.C. § 7412(r)(3)) require EPA to promulgate a “list” of “substances” and does not provide EPA with authority to identify “categories” of hazards, such as “reactivity.” As such, TFI believes that EPA’s authority to create a specific “list” of chemicals under section 112(r) would not extend to creating broad criteria for “reactivity,” or “functional groups,” that would codify an unlisted and open-ended group of chemicals.

⁹⁴ See 42 U.S.C. § 7412(r).

⁹⁵ See *id.* § 7412(r)(1).

Given the more specific terms of 29 C.F.R. § 1910.109(i) for AN, TFI believes that it should be formally amended by OSHA to identify specific AN and AN mixtures that qualify as DOT “oxidizers,” rather than considering a sudden expansion of EPA’s RMP requirements. The WG has anticipated that pursuing such opportunities for coordination will be necessary between OSHA’s and EPA’s regulatory programs,⁹⁶ and TFI believes that OSHA’s specific regulation (with necessary amendments, as set forth above) generally is a better vehicle for regulating “oxidizer” AN and AN mixtures than EPA’s RMP.

Finally, for the same reasons already provided above regarding “retail facilities” exempted from the PSM Standard, it would not be reasonable, desirable, cost-effective, or even remotely practical to apply the gamut of EPA’s RMP requirements at smaller fertilizer entities.⁹⁷ As TFI coordinates with the WG on these issues, TFI will remain open to discussing its positions and regulatory insights (*e.g.*, based on the success of ResponsibleAg and the FGAN Guidelines, discussed *supra*, when they are applied by fertilizer retailers in the field), and sharing them with the WG’s agencies as they develop their own regulatory proposals.

B. TFI Recommends that EPA Continue to Interact with TFI on RMP Guidance for “Retail Facilities”

As part of its commitment to improving safety and security at fertilizer facilities across the United States, TFI, through the Asmark Institute,⁹⁸ previously prepared the “myRMP” guidance and web-based compliance assistance tool in coordination with EPA⁹⁹ for fertilizer retail facilities nationwide; further, EPA officially endorsed and publicized these resources in 2007.¹⁰⁰ Especially within the fertilizer industry, the WG should support these types of public-private partnerships for safety coordination that will improve the RMP incrementally, as this approach relies on entities that are most familiar with the diverse operations and possible hazards associated with fertilizer products.¹⁰¹ Unlike a typical top-down or “command-and-control” regulatory program which assumes that agency headquarters staff are the most aware of specific processes, facts, and procedures that should be reflected in the field (*e.g.*, such as under a

⁹⁶ See WG Solicitation at 11 (Option 2.c) (asking, “What inconsistencies should OSHA and EPA harmonize to achieve consistency between PSM and RMP enforcement policies and guidance?”).

⁹⁷ See, *e.g.*, OSHA, “Fact Sheet: PSM of Highly Hazardous Chemicals,” at 1 (2002) (recognizing that PSM Standard was designed to apply “mainly to manufacturing industries”); *see also* 55 Fed. Reg. at 29,153 (“OSHA does not believe that retail facilities . . . present the same degree of hazard to employees as those workplaces in (b)(1) [of the proposed PSM Standard], that would require a comprehensive hazard analysis and management system. Certainly, highly hazardous chemicals may be present in [retail facilities] operations. However, regarding retail facilities, chemicals are in smaller volume packages, containers and allotments, making a massive release unlikely.”).

⁹⁸ See Asmark Institute, myRMP Website (last visited Feb. 12, 2014), <https://www.asmark.org/myRMP/>.

⁹⁹ See EPA, Risk Management Plan Website (last visited Feb. 12, 2014), <http://www.epa.gov/oecaagct/trmp.html#myrmp> (“EPA is recommending that retailers nationwide use myRMP. The program was launched Aug. 13, 2007 and is available for use by retailers across the country.”).

¹⁰⁰ See, EPA, “News Release: EPA and the Fertilizer Institute Develop Guidance for Retail Anhydrous Ammonia Fertilizer Facilities” (Aug 20, 2007) (“The materials provide practical advice, insights, and guidelines for better understanding the RMP and its implementation, particularly as it applies to facilities in the retail ammonia fertilizer industry.”), available at <http://yosemite.epa.gov/opa/advpress.nsf/d0cf6618525a9efb85257359003fb69d/8d5a680aad2302178525733e00625d8c!OpenDocument&Highlight=2,risk>.

¹⁰¹ See WG Solicitation at 12 (Option 2.k).

mandatory “inherently safer technology” (“IST”) program), TFI believes that developing resources like myRMP will help regulated entities engage in meaningful, timely, and efficient compliance activities.

As noted, TFI recently has partnered with OSHA to help make employers across the fertilizer industry aware of legal requirements, best practice recommendations, standards, and guidelines that could help improve safety at fertilizer facilities in the near term.¹⁰² TFI welcomes similar coordination with EPA (as occurred for myRMP).

VIII. THE WG SHOULD NOT MANDATE ASSESSMENT OR IMPLEMENTATION OF “INHERENTLY SAFER TECHNOLOGY”

The WG has requested feedback regarding the methodologies for assessing and/or implementing “safer alternatives and best practices,” including the possible concept of imposing IST requirements at various facilities.¹⁰³ TFI supports and incorporates by reference the position set forth in its letter to the President of the United States and the WG on this very subject,¹⁰⁴ which was co-authored by numerous trade associations.

As applied in the fertilizer industry, any approach that would mandate implementation of IST would have little relevance or consistency among the diverse processes, formulations, and applications relevant to AN. Thus, few if any facilities would be able to implement IST in a way that meaningfully increased safety performance. This is because the inherently subjective nature of an IST assessment requires extensive groundwork to be meaningful to a new process.¹⁰⁵ These processes constantly evolve within the fertilizer industry (*e.g.*, to cater to the specific nutrient needs of individual farmers, or specific fields they cultivate), as does the technology that allows these processes to successfully deliver AN and other fertilizer products to consumers.

Further, as explained in the IST Letter, the potential unintended consequences of requiring IST assessments or implementation are numerous, and most likely would not increase safety performance when compared to other available programs, such as EPA’s current RMP (discussed *supra*). These programs already are accompanied by concrete regulations, guidances,

¹⁰² See OSHA, “Trade News Release: OSHA Partners with Fertilizer Industry to Get Message Out On Chemical Safety” (Feb. 10, 2014).

¹⁰³ See WG Solicitation at 10, 13 (Options 1.e & 2.m).

¹⁰⁴ Letter to the President of the United States and the WG re: “Implementing Executive Order (EO) 13650 – Improving Chemical Facility Safety and Security” (Jan. 23, 2014) (hereinafter the “IST Letter”), available at <http://www.americanchemistry.com/Policy/Security/Industry-Letter-to-Chemical-Facility-Safety-Security-Working-Group-Regarding-IST.pdf>.

¹⁰⁵ See American Chemical Society, “Inherently Safer Technology for Chemical and Related Industrial Process Operations,” at 1 (Jan. 15, 2013) (noting that IST requires a “holistic application,” and “that the safest, most environmentally benign process choice may not be unequivocally identified. As observed in a recent National Academies study, evaluation of different process options ‘will not always result in a clear, well-defined, and feasible path forward’ and may involve consideration of a series of tradeoffs and can change over time. And, while there are tools available to measure the safety of different process alternatives, there is not a clear consensus on the most reliable metrics.”) (internal citation omitted), available at <http://www.acs.org/content/dam/acsorg/policy/publicpolicies/promote/ist/2012-06-inherently-safer-technology-statement.pdf>; see also American Institute of Chemical Engineers, “Final Report: Definition for Inherently Safer Technology in Production, Transportation, Storage, and Use” (July 2010).

agency experience, and best practices for operators within specific industries, whereas IST remains aspirational — and, frankly, nebulous. Due to the diverse operations relevant to AN (and fertilizers generally), mandating IST assessments or implementation solely within the context of the fertilizer industry would create an indeterminate and difficult task for both regulated companies and supervising agencies.

Thus, TFI agrees with other commenters that have observed that IST would have “little benefit and may hinder the federal government’s ability to implement existing safety and security programs by overemphasizing IST over other more potentially appropriate safety techniques.”¹⁰⁶ For the reasons set forth above and in the IST Letter, the WG should evaluate more realistic approaches to improving safety at chemical facilities, including TFI’s specific recommendations for regulatory improvements within the fertilizer industry set forth herein.

IX. THE WG SHOULD SEEK AN AMENDMENT TO THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT TO REMOVE THE “FERTILIZER RETAIL” EXEMPTION, THEREBY INCREASING THE INFORMATION AVAILABLE TO FIRST RESPONDERS

Though the storage and handling of manufactured fertilizers at retail facilities are subject to numerous federal laws and regulations¹⁰⁷ (in addition to state and local laws, regulations, and ordinances), the submission of OSHA Safety Data Sheets (“SDSs”) and annual reporting of chemical information to relevant local emergency responders currently is not required for fertilizer retail facilities under the Emergency Planning and Community Right-to-Know Act (“EPCRA”).¹⁰⁸ Thus, TFI proposes that the WG (and especially EPA) should support a legislative amendment to section 311(e)(5) of EPCRA to remove the “fertilizer retail” exemption.

As background, EPCRA was written to ensure that communities are aware of certain chemicals that exist in their communities. To that end, EPCRA imposes emergency planning notification requirements on facility owners and operators that have “hazardous chemicals” present at their facilities in excess of EPA-designated “threshold planning quantities.”¹⁰⁹ EPCRA also imposes emergency release reporting obligations for EPCRA “extremely hazardous substances” or certain “hazardous substances” released in excess of an applicable reportable quantity.¹¹⁰

¹⁰⁶ See American Chemistry Council, “Written Comments of The American Chemistry Council to the Interagency Working Group on Improving Chemical Plant Safety and Security Regarding Executive Order 13650, Improving Chemical Facility Safety and Security,” at 6 (Dec. 18, 2013), available at <http://www.americanchemistry.com/Policy/Security/ACC-Written-Comments-Regarding-Chemical-Facility-Safety-and-Security-Executive-Order.pdf>.

¹⁰⁷ As just one example of these diverse requirements, pursuant to the CAAA, EPA regulates facilities that store “regulated substances” in excess of corresponding “threshold quantities” under the RMP. See 40 C.F.R. Part 68. Such facilities must develop programs to prevent accidental releases to the air and mitigate the consequences of such releases by focusing on prevention measures. Common fertilizers, such as anhydrous ammonia (threshold of 10,000 pounds) and aqua ammonia (threshold of 20,000 pounds), and fertilizer ingredients, such as nitric acid (threshold of 15,000 pounds), are identified as regulated substances.

¹⁰⁸ 42 U.S.C. § 11021(e)(5).

¹⁰⁹ See *id.* §§ 11021(a)(1) & 11022(a)(1).

¹¹⁰ *Id.* § 11004.

Under EPCRA, state and local authorities were established to plan and oversee potential emergency responses: these include “state emergency response commissions” (“SERCs”) and “local emergency planning committees” (“LEPCs”).¹¹¹ LEPCs were established by section 303 of EPCRA to identify relevant facilities handling “hazardous chemicals” in their communities, and additional facilities that may raise related risks (e.g., hospitals or natural gas facilities) due to proximity.¹¹² Similarly, private facilities with “hazardous chemicals” in excess of the federally-designated quantities must appoint a “facility representative” to “participate in the emergency planning process as a facility emergency coordinator,” and update the community’s LEPC on changes at the facility relevant to emergency planning.¹¹³

EPCRA requires some facilities to submit OSHA-regulated SDSs to the SERC, LEPC, and local fire department for each “hazardous chemical” present at those facilities in quantities greater than, or equal to, applicable threshold quantities.¹¹⁴ Further, EPCRA requires facilities subject to the SDS submission requirement to also submit annual reports to these same agencies, providing, at a minimum, (1) an estimate (by range) of the maximum amounts of “hazardous chemicals” at their facility during the prior calendar year, (2) an estimate of the average daily amounts (by range) of the “hazardous chemicals” at their facility during the prior calendar year, and (3) the general location of the “hazardous chemicals” at the facility.¹¹⁵ Currently, these important provisions of EPCRA exempt fertilizers “held for sale by a retailer to the ultimate customer” from a definition of a “hazardous chemical.”¹¹⁶ Importantly, this exemption only was created for purposes of EPCRA §§ 311 and 312,¹¹⁷ rather than EPCRA’s broader emergency response obligations.¹¹⁸

TFI believes that the WG should support a legislative amendment to remove the EPCRA “fertilizer retail” exemption. TFI believes there will be few, if any, objections to this approach in the wake of the West Fertilizer incident. The submission of relevant SDSs and inventory information by regulated facilities to SERCs, LEPCs, and fire departments is a straightforward method of alerting them to “hazardous chemicals” within their respective jurisdictions. Moreover, the submission of this information to those entities will help communities engage in appropriate planning for possible emergencies.

Though amendments to the current, unambiguous text of 42 U.S.C. § 11021(e)(5) will require Congressional legislation, TFI believes such amendments are an appropriate course of action. Thus, TFI plans to support agencies’ advocacy to remove this exemption from EPCRA.

¹¹¹ *Id.* §§ 11001-03.

¹¹² *See id.* at 11003(c).

¹¹³ *See id.* § 11003(d)(1).

¹¹⁴ *See id.* § 11021.

¹¹⁵ *See id.* § 11022.

¹¹⁶ *See id.* §§ 11021(a), 11022(a), 11021(e) (“For purposes of this section, the term ‘hazardous chemical’ has the meaning given such term by section 1910.1200(c) of title 29 of the Code of Federal Regulations, except that such term does not include the following: . . . (5) Any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the ultimate customer.”).

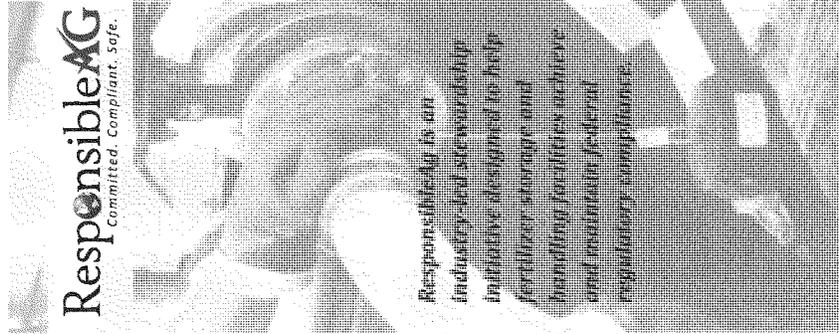
¹¹⁷ *See id.*

¹¹⁸ *See, e.g., id.* § 1102(b)(1) (stating that EPCRA still applies based on the quantities of substances present at a facility).

X. CONCLUSION

TFI appreciates your consideration of our comments on the WG Solicitation. TFI and its members have attempted to be comprehensive, given the breadth of the WG Solicitation and the need to harmonize actions among the WG's component agencies. As noted, TFI stands ready to discuss these comments collaboratively with the WG to help implement the EO through appropriate actions. To initiate these discussions, do not hesitate to contact Pam Guffain directly by phone at (202) 257-3043, or by email at pguffain@tfi.org.

ATTACHMENT A - BROCHURE ON THE RESPONSIBLEAG PROGRAM



Why We Need ResponsibleAg

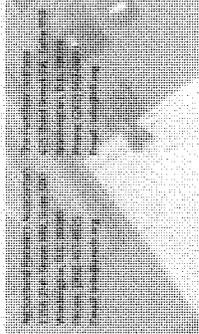
The U.S. fertilizer industry seeks to continually improve its safe storage and handling practices and to ensure regulatory compliance. We intend to promote a culture of safety and demonstrate that commitment through this program. Not only is this good for business, but it's the right thing to do for our employees, customers and neighbors.

Through ResponsibleAg, the industry is taking voluntary steps to:

- ◇ Improve safety and security associated with storage and handling of fertilizer products.
- ◇ Support compliance with federal laws and regulations.
- ◇ Demonstrate accountability and transparency.
- ◇ Ensure the safety of our personnel, our customers and our communities as we serve the vital need for crop nutrients.



The Fertilizer Institute
Nashville, Tennessee, 37203



How the System Works

Participation in ResponsibleAg is voluntary. Fertilizer distributors and retailers, regardless of size or location, are invited to participate.

Participating facilities will receive an assessment every three years. Assessments must be conducted by auditors who are credentialed on ResponsibleAg protocol. Upon enrollment, companies may choose to use an independent auditor certified by ResponsibleAg or their own internal auditor. Companies choosing to utilize an internal auditor must ensure their auditors are credentialed on ResponsibleAg's protocol before conducting an assessment.

A statistically-valid sample of assessments performed each year will be randomly selected to receive a quality assurance verification designed to evaluate the auditor's work and ensure a reliable and trustworthy end-product. Verifications will be conducted by an auditor selected by ResponsibleAg.

Scope & Definitions

ResponsibleAg is focused on federal regulations pertaining to fertilizer storage and handling of ammonium nitrate (AN) and anhydrous ammonia (NH₃). Registrations and assessments are handled by site (rather than by company).

ResponsibleAg will develop a single assessment checklist and auditor training curriculum based on existing federal regulations.

ResponsibleAG

Culture of Compliance

Participating facilities are assessed every three years by a credentialed, ResponsibleAg auditor.

Registered facilities receive an **assessment** every three years. Participating sites may use internal or external auditors, provided the auditor holds a ResponsibleAg credential. Facilities passing the assessment will be listed as "fit for service" in the ResponsibleAg database. Facilities that do not pass will receive a summary of corrective actions. Once completed, the facility would certify its compliance, and its status would be reinstated. Suppliers may request documentation of completion, and ResponsibleAg may establish additional procedures to ensure completion. Out-of-compliance facilities will be removed from the "fit for service" list within the database.

Internal Certification

Internal auditors must assess participating facilities every three years. Facilities must also submit affirmation from management or ownership that self-certification assessments have been completed according to ResponsibleAg protocol. Assessment results are posted to the database.

External Certification

Participants using **external auditors** must assess each facility every three years. Results of the assessment are posted to the ResponsibleAg database.

Third-Party Verification

To assure a high degree of reliability, a sample of facilities will receive random verification from an independent auditor annually.

A random, statistically-valid sample of all registered facilities will be selected annually for **verification** by an independent auditor approved by ResponsibleAg. Selected facilities could come from the internal or external certification pool. Verifications will help ResponsibleAg monitor effectiveness of auditor training, provide an important quality assurance check on auditors, and ensure accountability.

Accountability

Reporting on progress and sharing knowledge.

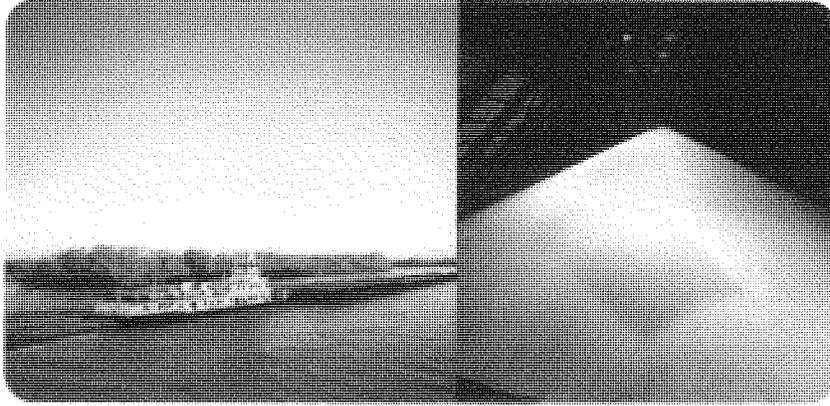
An annual accountability report will include the number of registered facilities, credentialed auditors, completed assessments and random verifications. ResponsibleAg will establish procedures for appeals and dispute resolution to ensure transparency and fairness. An online dashboard will be provided to participating companies to share frequently discovered issues and discuss suggestions to address them.

Fertilizer Suppliers

Supporting and encouraging participation.

Registered suppliers will have access to the database to determine if prospective customers have successfully completed the ResponsibleAg assessment. Suppliers will use the database to inform their business decisions and play a vital role of encouraging customers to participate in the program.

ATTACHMENT B - SAFETY & SECURITY GUIDELINES FOR THE
STORAGE AND TRANSPORTATION OF FERTILIZER GRADE
AMMONIUM NITRATE AT FERTILIZER RETAIL FACILITIES



Safety and Security Guidelines
for the Storage and Transportation of
Fertilizer Grade Ammonium Nitrate
at Fertilizer Retail Facilities

February 2014



SCOPE AND PURPOSE

- 1.1 These Guidelines cover the storage and transportation of Fertilizer Grade Ammonium Nitrate (FGAN) at fertilizer retail facilities.
- 1.1.1 The U.S. Department of Transportation (DOT) has three entries for FGAN:
- Class 5 Oxidizer, Division 5.1, UN19422 , PG III material – Defined as ammonium nitrate (AN), with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance.
 - Class 5 Oxidizer, Division 5.1, UN20673 , PG III material – Defined as uniform mixtures of fertilizers containing AN as the main ingredient within the following compositional limits:
 - Not less than 90% AN with not more than 0.2% total combustible, organic material calculated as carbon, and with added matter, if any, that is inorganic and inert when in contact with AN; or
 - Less than 90%, but more than 70%, AN with other inorganic materials, or more than 80%, but less than 90%, AN mixed with calcium carbonate and/or dolomite and/or mineral calcium sulphate, and not more than 0.4% total combustible, organic material calculated as carbon; or
 - AN-based fertilizer containing mixtures of AN and ammonium sulphate with more than 45%, but less than 70%, AN, and not more than 0.4% total combustible, organic material calculated as carbon such that the sum of the percentage of compositions of AN and ammonium sulphate exceeds 70%.

¹ TFI and ARA made considerable efforts to ensure the information contained herein is accurate. Users of these guidelines are strongly recommended to confirm that the information contained within them, is correct by way of independent sources. TFI and ARA accept no responsibility for any inaccuracies, does not make any warranty or representation, either express or implied, regarding its accuracy, completeness, or utility; nor does TFI and ARA assume any liability of any kind whatsoever resulting from the use or reliance upon, any information, material, or procedure contained herein, including but not limited to any claims for damages, loss or injury regarding health, safety, or environmental effects.

² 49 C.F.R. § 172.101

³ 49 C.F.R. § 172.102 (150)



- Division 9, UN2071⁴, PG III material, by highway only – Defined as uniform, AN based fertilizer mixtures, containing nitrogen, phosphate or potash, meeting the following criteria (1) contains not more than 70% AN and not more than 0.4% total combustible, organic material calculated as carbon, or (2) contains not more than 45% AN and unrestricted combustible material.
- 1.1.2 FGAN is a U.S. Department of Homeland Security (DHS) chemical of interest listed in Appendix A of the Chemical Facility Anti-Terrorism Standards (CFATS) as a theft-diversion security risk. For purposes of the CFATS program, FGAN is defined as solid AN with a minimum concentration of 33% or greater, and a nitrogen concentration of 23% or greater, and has a Screening Threshold Quantity for risk of theft-diversion of 2,000 pounds.
- 1.1.3 FGAN and mixtures in vessels and waterfront facilities are regulated as a certain dangerous cargo in 33 C.F.R. § 126.28 and, therefore, are also regulated by the U.S. Coast Guard in 33 C.F.R. Part 105 (security requirements).
- 1.2 The purpose of these Guidelines is to outline best practices for the safety and security of FGAN in storage and in transportation at fertilizer retail facilities.

⁴49 C.F.R. § 172.102 (132)

2.0 Safety

- 2.1 Owners/operators of all FGAN facilities should be aware that the safety of their workplaces and operations may be subject to the “General Duty Clause” of the Occupational Safety and Health Act at 29 U.S.C. § 654(a)(1).⁵
- 2.1.1 Where applicable, owners/operators must comply with the U.S. Occupational Safety and Health Administration’s (OSHA’s) Process Safety Management Standard (PSM) at 29 C.F.R. § 1910.119. FGAN is not a chemical substance currently listed in 29 C.F.R. § 1910.119, Appendix A and, therefore, facilities solely storing FGAN are not subject to the PSM. However, facilities storing FGAN and involved in other activities (storing other fertilizers or engaging in blending operations) may be subject to the PSM if they have quantities of chemical substances listed in 29 C.F.R. § 1910.119, Appendix A in excess of the corresponding threshold quantities.
- 2.1.2 Avoid heating FGAN in a confined space above 170°C (e.g., processes involving FGAN should be designed to avoid this possibility).
- 2.1.3 Owners/operators should ensure that facilities have implemented a “hot work” program consistent with OSHA requirements at 29 C.F.R. § 1910.252. It is important to avoid heating or welding on a machinery or piping where AN might be confined.
- 2.1.4 Ensure that FGAN is not exposed to shock (e.g., shock waves from explosives).
- 2.1.5 Avoid contamination of FGAN with combustible materials or organic substances including, but not limited to: (i) organic chemicals, acids, or other corrosive materials; (ii) compressed flammable gases; (iii) flammable and combustible materials,

⁵The Clean Air Act (section 112(r)(1) (42 U.S.C. § 7412(r)(1)) contains a similar “General Duty Clause” requiring owners and operators of stationary sources to “identify hazards which may result from . . . releases using appropriate hazard assessment techniques, design and maintain a safe facility taking such steps as are necessary to prevent releases, and minimize the consequences of accidental releases which do occur.” Since these Guidelines focus on safety and security, we do not address the Clean Air Act’s “General Duty Clause” herein.



solids or liquids; and, (iv) other contaminating substances such as wood chips, organic materials, chlorides, phosphorus, finely divided metals, charcoals, diesel fuels and oils, sulfur.

- 2.1.6 Avoid contamination of FGAN with inorganic materials that may contribute to its sensitivity to explosion, including chlorides and some metals, such as chromium, copper, copper alloys such as brass or bronze, cobalt, and nickel, and finely divided or powdered metals that may act as fuels.
- 2.1.7 Ensure that all electrical components/systems are in compliance with the National Electrical Code.
- 2.1.8 Ensure that the facility has implemented a Lock Out/Tag Out program in accordance with 29 C.F.R. § 1910.147.
- 2.1.9 Facility access points should be posted “NO SMOKING, NO OPEN FLAMES.”
- 2.1.10 All facility access points should be posted with a durable, reflective danger warning sign at least 4ft. x 4ft. where it is visible to fire responders and police. The warning sign text and important Hazard Communication information should state, at a minimum: “WARNING. Do not fight fires at this facility without consulting the facility operator. Refer to ERG Guide 140 and Safety Data Sheet (SDS). In case of an emergency CALL 9-1-1 or [local emergency number] and the facility owner/operator.”

- 2.1.11 Owners/operators of facilities should develop a written emergency plan in accord with 29 C.F.R. § 1910.120 for responding to releases of, or substantial threats of releases of, AN. Provide training to employees implementing the emergency plan. Plans should be specific to the facility and community. Also, plans should be specific as to when a fire is considered to have engaged AN. The rule of thumb is if outside emergency responders are necessary, do not fight AN fires. For fires that have engaged AN, plans should focus on evacuation of the area. When the facility in question is close to the public, plans should focus on evacuation. For facilities in areas with inadequate water supplies and fire hydrants, plans should focus heavily on evacuation.
- 2.1.12 Plans prepared under section 2.1.11 should be provided to, and coordinated with, local emergency responders. In addition, owners/operators should provide local emergency responders with current copies of SDSs and review appropriate fire response. Further, owners/operators should conduct exercises with local emergency responders to train personnel on how to carry out proper emergency response and to revise the plans, as necessary.
- 2.1.13 Suppliers should provide information to customers describing the hazards associated with FGAN, proper management and housekeeping requirements, and information regarding regulatory requirements applicable to the safe storage of the material. At a minimum, this should include a FGAN SDS.





2.2 Storage

2.2.1 General Requirements

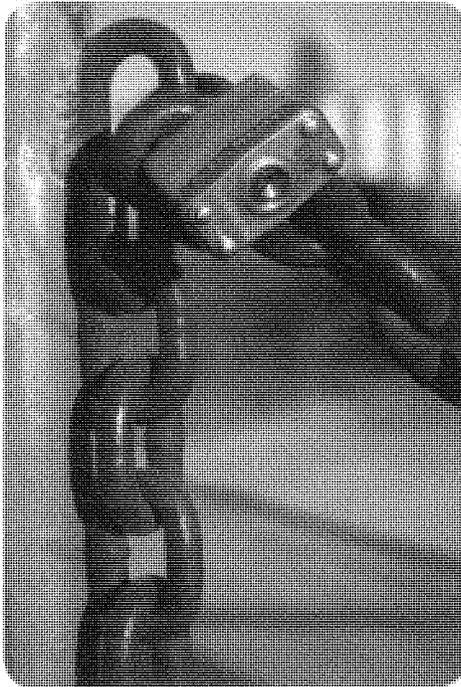
- 2.2.1.1 All FGAN storage sites should consider various government agency chemical advisories on the safe storage, handling, and management of AN. The most current and comprehensive advisory is “Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate (EPA 550-S-13-001 August 2013). Owner/operators of FGAN storage sites should be aware that these advisories will be updated, as necessary, with any new information.
- 2.2.1.2 Steel and wooden bins and other structural materials in immediate contact with FGAN should be protected by special coatings (29 C.F.R. § 1910.109(i)(4)(ii)(b)). Steel and wooden bins can be protected by special coatings such as sodium silicate (water glass), or epoxy coatings, or polyvinyl chloride coatings.
- 2.2.1.3 AN storage areas should have automatic fire detection and

alarm system if the areas are not continuously occupied. Water supplies and fire hydrants shall be available in accordance with recognized good practices. (29 C.F.R. § 1910.109(i)(7)(ii)(b)). Situations where water supplies, rate of flow, and fire hydrants are not available should be accounted for in the emergency response plan (See 2.1.12). Smoking, open flames, and unauthorized sparking or flame-producing devices should be prohibited in the immediate area.

- 2.2.1.4 If firefighters consider it appropriate to engage an AN fire, flooding quantities of water from a distance should be used as promptly as possible.
- 2.2.1.5 Bins should have appropriate ventilation and be constructed to self-ventilate in the event of a fire to avoid pressurization.
- 2.2.1.6 Bulk piles should not exceed 40 feet in height. Piles should be no higher than 36 inches below roof. Piles should not contact supporting beams or other related supporting structures.
- 2.2.1.7 Owners/operators of FGAN storage sites should ensure that facilities are in full compliance with applicable requirements of the Emergency Planning and Community Right to Know Act. 42 U.S.C. §§ 11001 – 11050.
- 2.2.1.8 Storage areas should be inspected regularly by an individual(s) trained to identify potential hazards and ensure that all safety control measures are being properly implemented. Any identified hazards should be addressed immediately.
- 2.2.2 Notification Warnings
 - 2.2.2.1 Buildings and bins where FGAN is stored should be marked with a hazard rating “fire diamond” meeting the standards of NFPA 704. The NFPA fire diamond should be situated, with the concurrence of the authority having jurisdiction, where it is clearly visible to first responders, police, or other individuals attempting to access the area.
 - 2.2.2.2 The contents of each bin should be clearly identified by the proper shipping name of the material, “AMMONIUM

NITRATE” written in 2- inch high, capital letters below the NFPA fire diamond.

- 2.2.2.3 The NFPA diamond codes for FGAN are generally recognized to be:
 - Health Hazard (Blue).....1
 - Flammability (Red).....0
 - Reactivity (Yellow).....3
 - Other.....(OX)
- 2.2.2.4 Owners/operators should consult appropriate fire codes such as NFPA 400 (Chapter 11) for guidance regarding storage of FGAN.



3.0 Security

3.1 Storage Facilities

3.1.1 Owners/operators must comply with applicable regulations promulgated by DHS at 6 C.F.R. Part 27 and the U.S. Coast Guard at 33 C.F.R. Part 105 as well as applicable state and local requirements.

3.1.2 The owner/operator should conduct a thorough site vulnerability assessment to identify gaps in FGAN security and develop and implement appropriate security control measures that will mitigate these security gaps. Considerations should be

given to deter, to delay, to detect, and to respond to the identified potential security issues.

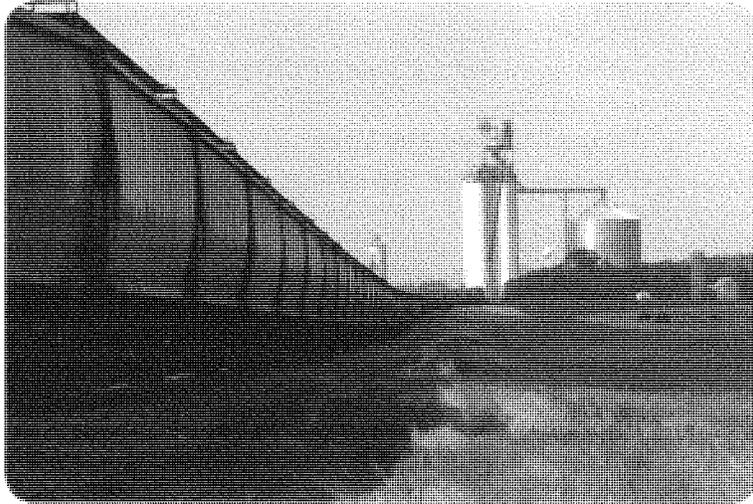
- 3.1.3 Access by visitors, service subcontractors, and third-party transporters should be approved by management.

- 3.1.4 All FGAN storage facilities should institute a system for accountability of bulk FGAN. Accurate inventory records and accounting for product shrinkage should be maintained.
- 3.1.4.1 Owners/operators of storage facilities should document and report unexplained losses, thefts, or otherwise unaccounted for shortages of FGAN to the local Joint Terrorism Task Force, as well as local law enforcement.
- 3.1.5 Report all suspicious behavior to an appropriate supervisor or, if unavailable, to local law enforcement.
- 3.1.6 Owners/operators should maintain regular communications with local law enforcement agency(ies) and should encourage regular patrols in the area of the facilities.
- 3.1.7 Owners/operators should institute a “KNOW YOUR CUSTOMER” program. Information should include (but not be limited to) sales records and statements of intended use of purchased FGAN. A record of this information should be retained for at least two (2) years.
- 3.1.8 Owners/operators should make provisions to prevent unauthorized persons from accessing the FGAN storage area.



4.0 Transportation

- 4.1 Owners/operators must ensure that all transportation-related activities are in full compliance with applicable DOT hazardous materials requirements at 49 C.F.R. Parts 171-178.
 - 4.1.1 As a Division 5.1 oxidizer, AN transport is regulated under DOT's 49 C.F.R. § 172.800 security regulations. Facilities must have a DOT security plan, including transportation security training for employees.
- 4.2 **Truck**
 - 4.2.1 Motor carriers must comply with hazardous materials requirements at 49 C.F.R. Parts 177 and 397.
 - 4.2.2 Motor carriers must maintain financial responsibility as required by 49 C.F.R. § 387.9.
 - 4.2.3 Employee facility drivers should possess a current, state-issued commercial driver's license with a hazardous materials endorsement as required under 49 C.F.R. § 383.121. Employee facility drivers should have received hazardous materials training as required by 49 C.F.R. § 172.704.



- 4.2.4 The parking of vehicles under or near a bin for any purpose other than loading or unloading FGAN or necessary maintenance of the bin is prohibited. The engine of the power unit should be shut off while under a FGAN bin except as needed for loading or unloading operations. Wheel chocks should be used and the ignition key removed when loading or unloading FGAN from a bin when the vehicle is unattended. After loading is completed and loading equipment has been properly disconnected, the vehicle should immediately be moved to a location at least 50 feet from the bin.
- 4.2.5 Fork trucks, tractors, front-end loaders and other internal combustion powered equipment must not be permitted to remain unattended in a building where FGAN is stored.
- 4.2.6 Owners/operators should implement a Proof-of-Delivery program for all truck shipments (bulk or bagged) of FGAN.

4.3 Highway

- 4.3.1 Owners/operators should consider implementing relevant and appropriate voluntary Security Action Items recommended by the Transportation Security Administration for Tier 2 Highway Security-Sensitive Materials. Refer to: <http://www.tsa.gov/highway-security-sensitive-materials-hssm-security-action-items-sais>

4.4 Rail

- 4.4.1 Rail transporters must comply with applicable DOT hazardous materials regulations at 49 C.F.R. Part 174.
- 4.4.2 Rail cars should arrive at the rail siding with the shipper's security seals affixed to all top hatches and bottom gates.
- 4.4.3 All shipper seal serial numbers should be checked to ensure they match the bill of lading for the rail car. If any seal number is incorrect, the owner/operator should call the shipper. If any seal shows signs of tampering or unauthorized removal, the shipper and local law enforcement should be contacted immediately.
- 4.4.4 When a rail car containing other than residual amounts of AN is unattended and outside a secure area, the owner/operator should affix a padlock or other device to the door or gate to deter unauthorized opening of an unloading compartment.
- 4.4.5 If any shipper's security seal is removed from the top hatches of a rail car by the rail siding operator to gain access for any reason, the rail siding operator's security seal should be affixed to the hatch.

4.5 Barge

- 4.5.1 Owners/operators shipping FGAN by barge should comply with applicable provisions of 46 U.S.C. § 70103 for "certain dangerous cargo".

REFERENCES

Agricultural Retailers Association, 1525 15th St. N.W., Washington, D.C.
20006, (202) 457-0825, www.aradc.org

The Fertilizer Institute, 425 Third St. SW, Suite 950, Washington, D.C.
20024, (202) 962-0490, www.tfi.org

U.S. Department of Labor, Occupational Safety and Health
Administration, Washington, D.C., www.osha.gov

U.S. Department of Transportation, Pipeline and Hazardous Materials
Safety Administration, Washington, D.C., www.dot.gov

Compliance Assistance Tool for Agricultural Retailers, Asmark Institute,
Owensboro, Ky., www.asmark.org/ComplianceAssessmentTool

ATTACHMENT C - COMMENTS FROM THE MCGREGOR COMPANY
REGARDING FERTILIZER RETAIL FACILITIES

DEDICATED PEOPLE
WHO CARE
ABOUT FARM FAMILIES
ABOUT THE ENVIRONMENT
ABOUT THE COMMUNITIES WE SERVE

509.397.4355
800.873.8666
www.mcgregor.com
PO Box 740
Colfax, WA 99111



March 28, 2014

OSHA Docket
Technical Data Center
Room N-2625
OSHA US Dept. of Labor
200 Constitution Avenue, NW
Washington, D.C. 20201

Re: Executive Order 13650—Improving Chemical Facility Safety and Security

On behalf of The McGregor Company, I submit the following comments regarding the White House *Executive Order 13650—Improving Chemical Facility Safety and Security*, Interagency Working Group “Solicitation of Public Input on Options for Policy, Regulation and Standards of Modernization” (Section 6).

STATEMENT OF INTEREST

The McGregor Company is an agricultural retailer that serves 2,500 farm families who grow crops on two million fertile acres between the Cascade and Rocky Mountains of Washington, Idaho, and Oregon. These families produce world-class yields of wheat, garbanzos, potatoes and other foodstuffs for consumers across the United States, across the far shores of the Pacific and to the Middle East, too. We provide skilled agronomic expertise, fertilizer, equipment we’ve specially designed to serve the steeply rolling terrain, crop protection materials, seed, and precision agriculture software and technology to those farm families. Like our farm customers, we have deep roots in the region—we’ve raised crops and livestock here ourselves for four generations, since 1882. We’ve been in the farm supply business since 1948 when my father and a university scientist joined forces to research the use mineral fertilizers to replenish soils depleted by several decades of crop production. Our field agronomists and equipment designers have helped the current generation of family farmers increase yields 250% while reducing water borne soil erosion 85%, wind-blown dust six-fold, and stubble burning 22 fold—the biggest gains in productivity and environmental stewardship of any generation since the pioneers ‘broke’ the prairie with three horse ‘foot burner’ plows.

Today we have offices and shops in more than forty communities across the intermountain prairie. Most of the towns are small—except for the school district, we are often the largest employer in town with a half dozen people on board. People join us for life long careers—it is not uncommon for us to have 35, even 40+ year veteran employees—and we have several dozen first responders, volunteer firefighters and EMT's on board. More than fifty members of our team are Certified Crop Advisers who have met the rigorous standards of the American Society of Agronomy for technical expertise and environmental stewardship.

SAFETY AND WISE STEWARDSHIP ARE TOP PRIORITIES AT RURAL FARM SUPPLY CENTERS

We've been handling anhydrous ammonia (NH₃), liquid sulfur and phosphate in our local small town lots and shops and doing so safely for more than sixty years. We've specially designed equipment enabling farmers to apply these products in a safe and efficient manner on steep terrain—helping increase crop yields, providing nutrients precisely placed in the soil for the growing crop, protecting the environment through reduced erosion. We've modified trucks extensively so these products can be safely delivered over steeply sloped fields and rough rural roads. Product is delivered to the farm field, often within a twenty mile radius, typically on secondary, rural and field roads. Our service technicians work long hours when there is field work to be done in the spring and fall. Much of their time is spent in farmers' fields, calibrating and maintaining equipment and providing it as needed for ongoing farm operations. Service technicians, by the nature of their jobs, handle a wide range of duties—maintaining field equipment and delivery vehicles, keeping their work place in good shape and up to all standards and receiving many long hours of training. The tasks vary widely—ensuring the proper depth of applicator shanks in the farm field, knocking mud off equipment to ensure uniform application, checking the working order of GPS field tracking systems, calibrating a machine, welding a piece of broken field equipment at the shop or in a dusty field. The training reflects the diverse nature of the duties from one site to another, even one season to another—DOT rules and regulations, Hazmat, federal railroad unloading standards, OSHA hazard assessments with safety training adapted to potential hazards at each location—be it a forklift, a skid loader, or other tools-- and state agriculture department rules on handling and storage of crop protection materials and restricted use products.

The personnel at a rural facility might only number a half dozen, sometimes fewer, sometimes more. But they work hard to get top marks in our own extensive annual safety and stewardship audits. All our programs are designed to ensure that NH₃ and other products are stored, transported and applied in safe and secure fashion to protect our employees, farmer customers, and local communities. Service technicians take great pride in the nearly twenty state, regional, and national Environmental Respect Awards, Governor's Pollution Prevention Award and other honors they and their colleagues have earned. Much time is spent educating fire departments, EMT's, and communities about safety and emergency response planning. They are well educated in practical 'hands on' training and they work guided by a vast array of rules—OSHA standards in the State of Washington, for instance, covering equipment requirements, safety, equipment inspection, employee training, and recordkeeping. They follow the requirements of ANSI K61.1-1999 and the updates due to be released later this year and

OSHA standard 1910.111 for the storage and handling of NH₃. They meet our own company security requirements as well as Chemical Facilities Anti-Terrorism Standards (CFATS) and U.S. Department of Homeland Security Site Security plans. Our rural service technicians also follow EPA's Risk Management Plan rules—hazard assessments, accident histories, worst case and alternative release plans, monitoring, employee training, emergency response, procedures for informing the public about products we handle, recordkeeping, and updating the RMP emergency response section as required.

WE SHARE A COMMITMENT TO HELP PREVENT FUTURE TRAGEDIES

We share annual Superfund Amendment and Reorganization Act (SARA) Title III reports with Local Emergency Planning Committees with copies to Emergency Responders and fire departments. We ask recipients to come have a site visit so they can familiarize themselves with the products we handle, the local shop, any potential hazards. We want them to walk around, familiarize themselves with what we do, and get to know us.

We have worked hard to help develop and implement the Responsible Ag management system set up by two organizations of which we are members, The Fertilizer Institute and the Agricultural Retailers Association. Responsible Ag is a forward-looking approach to ensure that every retailer in this country has access to the information needed to comply with all applicable federal regulations. We also agree that the Emergency Planning and Community Right to Know Act (EPCRA) should apply to fertilizer retailers. We already do our own facility audits and we work closely with emergency planners, as do many retailers across the nation. We believe it important to have an industry-driven assessment program to ensure sound stewardship of fertilizer products at every level from the production plant to the field. Responsible Ag is such a program.

OSHA PROCESS SAFETY MANAGEMENT RULES SHOULD APPLY TO MANUFACTURING FACILITIES

An OSHA "fact sheet" describing "PSM of highly hazardous chemicals" indicates that "OSHA's standard applies mainly to manufacturing industries—particularly those pertaining to chemicals, transportation equipment, and fabricated metal products." At facilities where we mix fertilizers—combining materials through a chemical process to produce a formulation—or from which we distribute products to distant branches, we participate in, and comply with, PSM standards. There are standard processes in place in those locations and the regimented process management can be applied. Local rural stores are quite different—products are brought in shortly before a season, then delivered and applied on nearby farm fields.

RESTRICTING THE PSM RETAIL EXCLUSION TO ONLY COVER 'SMALL LOTS' WILL COMPROMISE SAFE PRODUCT HANDLING IN THE FIELD AND ON THE ROAD

In its summary of the retail exclusion, OSHA appears to be making the case that only small amounts of product—as with a fill up of gas at a service station—should qualify. This would be a major retreat away from a system designed for safety and efficiency on the steep slopes where we do business. We have specially modified delivery vehicles to navigate the hills—adjusting frames, shocks,

beds and more to handle 1500 to 2000 gallons of ammonia and liquid fertilizer. Well trained DOT drivers, using expensive delivery trucks that meet regulatory standards, deliver product and equipment to nearby farm fields. We believe that safe handling of NH₃ and other fertilizers demands a much higher level of professionalism than does filling a vehicle at a gas pump.

Restricting the PSM exclusion to small 'lots' would mean many more delivery loads from rural facility to farm field. Smaller loads would likely mean inexperienced, part time help picking up product in 'pup' trailers and pickups, a dangerous and ill-advised alternative on steeply sloped land. Our local branches are a far cry from the manufacturing industries for which PSM was designed. We're a far cry from a convenience store, too, and we meet much higher standards than do the clerks behind the fuel station counters. Change the retail exclusion to 'small lots' and you will compromise a safe and efficient delivery system from rural fertilizer branches to the field. Our facilities are already covered under OSHA NH₃ storage regulations and EPA RMP and EPCRA. Adding PSM will not increase safety at such rural sites, only add to paperwork burdens and likely lead to closure of facilities.

APPLYING PSM TO RURAL FARM SHOPS WOULD BE ONEROUS AND COUNTER-PRODUCTIVE

Talented teams of a few well trained men and women—the cornerstones of farm service and small towns—have a broad range of duties that range from field to field, farm to farm. The differences between a rural shop and a production plant could hardly be more striking—it takes well trained, versatile, experienced individuals with lots of 'hands-on' mechanical savvy to keep equipment running in the field, to be good stewards while delivering products, to weld together broken farm implements as needed in the heat and dust of a farm field. Nothing is standard and industrial, all depends on skilled, well trained personnel doing whatever it takes to keep farm machinery running in a safe and efficient manner.

Looking at major topics in the OSHA "Process Safety Management Guidelines for Compliance" one gets an understanding why PSM "applies mainly to manufacturing industries" and would be ill-suited to farm fields and rural shops: "*Process, design, process technology, process changes;*" "*Block flow diagrams—showing major process equipment and interconnected process flow lines and flow rates;*" "*Control room personnel and operating staff;*" "*list of process equipment and instrumentation;*" "*work authorization notice or permit for non-routine work...*" Proposal #10 in the current OSHA request for information would require reporting for "*a reduction in the number of operators on a shift*" or "*changing from a 5-day operation to a 7-day operation.*"

Permits for "non-routine work" in a trade where nothing is routine, all is geared toward helping the farmer with a broad range of field work? Variations in work schedule? In the agricultural sector, variations depend upon whether it has rained, how soon the crop needs to be planted, whether the county had road restrictions as back roads thaw out in the spring, whether there is a sudden outbreak of rust or other disease, even whether the farmer has family visiting for the weekend. You could hardly find a trade where the real world challenges are farther afield from Process Safety Management.

Burden small teams already proficient with OSHA workplace and NH3 standards, CFATS rules, and RMP's with industrial process management and there will be less time to devote to safety. Requiring a person at each workplace, in a crew of three or four or perhaps a few more, to report variations in hours worked, equipment used, or procedures would be cumbersome at best, robbing time otherwise spent on safety for extensive bookkeeping of dubious value. Instead of meeting the Executive Order goal of improving chemical facility safety, it would be harmful and counterproductive.

OSHA'S CONCERN WITH 'UNINTENDED CONSEQUENCES' IS APPROPRIATE: PSM WOULD COST JOBS IN RURAL COMMUNITIES

If OSHA overturns the retail PSM exemption for rural retail fertilizer branches, the ironic result will be to force closure of many of the local facilities where well trained long-term employees are familiar with the farms, the terrain, and how to apply nutrients safely in the nearby fields. Fewer facilities and long distance transport would be a hardship for farm families, for whom timely product delivery is essential in producing successful harvests. The consequences would be harmful to the global competitiveness of the agricultural industry, further drive up food production costs, and potentially lead to increased costs and lower availability of essential crop inputs.

It would cost jobs in small communities where it is already a struggle to maintain enough 'critical mass' to provide basic infrastructure needs. We know from first-hand experience—when the community of LaCrosse, Washington (population 310) lost its bank, grocery, and café our eight local employees and our company were leaders in refurbishing the downtown and bringing new businesses back to town. Not for any business reason but to protect our outstanding school and our community. Take away those eight jobs and thirty family members and the community would have difficulty overcoming the tailspin.

Force a world of authorization notices for non-routine work, block flow diagrams and notices of changes in shifts or hours, and you remove knowledgeable local people with outstanding safety records and harm local communities by taking away badly needed jobs. Businesses that have built local capacity relying upon two decades of PSM exclusion and that directly serve 'end users' on the farm will bear the brunt as will the communities where they have put down roots. OSHA's "fact sheet" was right—an industrial process focus is ill suited to a world of local service technicians with specially designed implements of husbandry, doing field work on remote farm fields and whose time is best spent focusing upon keeping farm and field equipment in safe and good running order. Far better for safety that they so invest their time rather than going through the motions with industrial rules that would be hard to apply in any meaningful way.

IT IS URGENT TO PRESERVE THE 'RETAIL FACILITIES' EXEMPTION

To alter or eliminate the 'retail facilities' exemption in the rural fertilizer supply world would be harmful to agriculture, to farm families, to local communities and to local businesses that have built safe and efficient systems. It would replace a safe system well suited to rural areas and local deliveries with a production plant focus that would make the work being done more hazardous, more cumbersome, and more likely to be marred by accidents while local people try to interpret flow lines, process design and stay out of procedural trouble rather than keeping implements of husbandry, tractors, and field deliveries running safely as they now do.

OSHA is correct to ask about 'unintended consequences.' Compromising safety, local jobs and vital field work for farmers is clearly not the intent. But it would be the consequence of extending standards that OSHA describes as applying "mainly to manufacturing industries" to the fields, farms and rural shops of American agriculture.

WE UNDERSTAND AND SUPPORT THE NEED FOR CHEMICAL SAFETY AND SECURITY

My 320 colleagues in our family business and I devote much time and attention to environment, health, safety, and security matters. We cooperate closely with state and federal agencies we view as partners in helping us ensure that we are safe in what we do. Our business has a reputation, dating back 132 years to territorial days, of being an enterprise where colleagues who come on board can have meaningful, rewarding, and safe careers of thirty, forty or more years. Protecting that reputation, so long in the making, matters deeply to us. We are strong and active supporters of Responsible Ag to promote safety and regulatory compliance across rural America. We look forward to working together so that agricultural retailers are able to continue to safely and securely provide vital crop inputs to America's farm families.

Respectfully,



Alex McGregor
President

Senator BOXER. Well, sir, I am just very pleased to see this and look forward to learning more about it, and I do encourage all of these players to join, because at the end of the day the costs to the industry are enormous and people lose faith, right? So I think it is a smart thing to do.

OK, with that we call, last but not least, Mr. Scott Berger, Executive Director, Center for Chemical Process Safety, the American Institute of Chemical Engineers. Welcome.

STATEMENT OF SCOTT BERGER, EXECUTIVE DIRECTOR, CENTER FOR CHEMICAL PROCESS SAFETY, AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

Mr. BERGER. Thank you, Chairman Boxer, Ranking Member Vitter, and distinguished committee members. Thanks for the opportunity to testify today. I am speaking today from the perspective of an organization which has been working very hard for the last 29 years to provide guidance to help companies prevent these accidents from occurring.

To this end, our organization has published more than 80 books addressing the technical and management skills, procedures, concepts required to prevent these fires, explosions, toxic releases, and spills. So my comments today are specifically directed the topic of inherently safer technologies, or IST.

Our organization has much experience in this field, having published two editions of a book dedicated to IST. We have also addressed that in many of our other books. In 2010, our unique experience and expertise led the DHS to request CCPS to lead a team of technical experts to develop a formal definition of IST.

IST has long been one of the important tools in the toolbox used by chemical engineers to design safe processes. It is so ingrained in our thinking that we often do not even realize that we are doing it. This is certainly my personal experience. I had never heard the term IST before the early 1990s, but once I did hear it I recognized that I had been learning these principles as an undergraduate in the 1970s and I had been using them since my first assignments in industry.

A Web link to the definition report is provided in my written testimony, and I would just like to highlight a few key elements of the definition.

First of all, IST is one way of many ways that we use to prevent fires, explosions, and toxic releases. There is no specific IST technology that can be substituted broadly. Each plant is unique and the IST philosophy has to be applied differently from plant to plant.

There is really no clear boundary between IST and other design strategies. As demonstrated in the New Jersey experience, IST can go well beyond simple replacement of one material with another; it can be applied to reactor design control systems, operating instructions, even emergency response.

A technology can be only described as inherently safer when compared to some other technology. There is no inherently safe technology. It can be safer than another technology with respect to one hazard, but it can actually be less safe with respect to others. And

even if the technology is inherently safer, it may not be safe enough.

Last, technology that is inherently safer in one location can also reduce safety somewhere else, shifting the risk. The bottom line is that design requires tradeoffs, and IST, as part of a design, also requires tradeoffs.

Based on the formal definition of IST, it is clear that several existing regulatory provisions within the EPA and OSHA requirements already address IST, and I have detailed those in my written testimony.

Considering that the application of IST is so tightly integrated into the overall work of process safety, I believe that EPA and OSHA would require significant additional resources beyond those excellent resources they already have to really get into the details of designs and question all the decisions that are design decisions that are made. I think, as a practical matter, going into a level of detail beyond this would not be possible.

So the bottom line on IST is this: it is effective to teach it, it is wonderful that we are talking about it today, but it is really not effective to regulate it. I think there clearly are things that we can all do to improve process safety regulations, and most prominent among them is to require tracking and reporting of process safety metrics following standards such as the API recommended practice 754. What gets measured gets improved, and that is, after all, what we all want.

Thank you for the opportunity to provide these comments.
[The prepared statement of Mr. Berger follows:]

Comments to US Senate Environment and Public Works Committee Hearing, Thursday March 6, 2014

By Scott Berger, CCPS Executive Director

On behalf of the Center for Chemical Process Safety of the American Institute of Chemical Engineers

AIChE
120 Wall St
New York, NY 10005
646-495-1370
scotb@aiche.org

Good morning. I am Scott Berger, Executive Director of the Center for Chemical Process Safety (CCPS), a Technological Community of the American Institute of Chemical Engineers (AIChE). CCPS has published over 100 books and other reference documents which guide the implementation of process safety technology and management systems. However, my comments today are specifically directed towards the topic of Inherently Safer Technologies (IST).

By way of background, the topic of Inherently Safer Design (ISD), which we believe is a more technically accurate term, has been discussed in CCPS and AIChE conferences and other forums since the 1970s. CCPS has published two editions of a book dedicated to ISD (1996, 2009) and included ISD in two books on Engineering Design (1993, 2012). In 2010, our unique expertise in ISD led the Department of Homeland Security (DHS) to request CCPS to lead a team of IST/ISD technical experts to formally define IST and ISD. Since the language of the EO refers to IST, we will use this term for consistency.

IST is, and long has been, one important tool in the broader toolbox used by chemical engineers to design safe processes. It is so ingrained in the design process that chemical engineers often do not even realize they are doing it. This was certainly my personal experience. I never heard the term IST (or ISD) before the early 1990s, yet once I heard it, I recognized that I had learned these principles as an undergraduate in the 1970s and had been using them since my first industrial assignments.

The formal definition of IST that CCPS developed for DHS is key to understanding the role it should play in future efforts to improve process safety. A copy of the final DHS report may be found at the CCPS website at <http://www.aiche.org/ccps/publications/books/inherently-safer-chemical-processes-life-cycle-approach-2nd-edition>. I would like to highlight and comment on the key elements of the definition:

- “Inherently Safer Technology (IST), also known as Inherently Safer Design (ISD), permanently eliminates or reduces hazards to avoid or reduce the consequences of incidents.”

Specifically, IST is one way to mitigate hazards that can cause process safety incidents, i.e. fires, explosions, and toxic releases.

- “IST is a philosophy applied to the design and operation life cycle, including manufacture, transport, storage, use, and disposal.”

IST is not a specific technology or group of technologies that can be substituted. Each case is unique, and adopting the IST philosophy typically leads to different results from case to case.

- “There is no clear boundary between IST and other strategies.”

As we can readily see from the NJ TCPA program, IST can go well beyond the simple replacement of one substance with a safer one or one reaction with another. Elements of IST can be applied at the process control level, the procedural level, and even the emergency response level. The bottom line is that IST is an integral part of developing a safe design and not separate from the desired goal of safe design

- “ISTs are relative: A technology can only be described as inherently safer when compared to a different technology, including a description of the hazard or set of hazards being considered, their location, and the potentially affected population.”

One technology may be inherently safer than another with respect to some hazards but inherently less safe with respect to others. Also, even if the technology is safer, it may not be safe enough to meet society’s expectations.

- “Because an option may be inherently safer with regard to some hazards and inherently less safe with regard to others, we must make decisions about the optimum strategy for managing risks from all hazards.”

The choice of technology is rarely cut and dry. It depends on the relative importance of the range of hazards, where in the lifecycle different hazards occur, and the potential for shifting risk from one potentially affected population to another. Technical and economic feasibility also play a significant role

Based on this definition of IST, it is clear that several existing regulatory provisions already address IST:

- 29CFR§1910.119 (a): The setting of thresholds for coverage under this regulation is an incentive to reduce hazardous inventory, a key principle of IST
- 29CFR§1910.119 (e): The activity of process hazard analysis prompts the broad-based hazard analysis team to determine safeguards and process modifications, including IST, to address the hazards identified, implement them, and review the analysis every 5 years
- 29CFR§1910.119 (m): When incidents occur, the company must identify the causes and implement safeguards and process modifications, including IST, to address eliminate these causes
- 40CFR§68.10: The setting of thresholds for coverage under this regulation is an incentive to reduce hazardous materials inventory, a key principle of IST
- 40CFR§68.12 and related: The performance of worst case analysis drives engineers to seek IST alternatives to reduce potential consequences
- 40CFR§68.50 and related: The activity of process hazard analysis prompts the broad-based hazard analysis team to determine safeguards and process modifications, including IST, to address the hazards identified, implement them, and review the analysis every 5 years
- 40CFR§68.60 and related: When incidents occur, the company must identify the causes and implement safeguards and process modifications, including IST, to address these causes
- 40CFR§68.155: Every 5 years, the facility is required to submit plans to improve safety

Considering that the application of inherently safer design methodology is so tightly integrated into the overall work of process development, any regulatory action related to IST which goes beyond these existing provisions would likely require that regulatory authorities conduct a detailed expert review of the complete set of design documents, essentially validating the design decisions made. Without significantly greater regulatory resources, such a detailed review is clearly impractical.

As I hope I've made clear, AIChE and CCPS support the use of IST as part of the overall engineering process. We strongly support increasing the education of chemical engineers and other scientists and engineers involved in process design and technology selection in the philosophy and art of IST.

To this end, AIChE was pleased to receive a recommendation from the US Chemical Safety and Hazard Investigation Board asking us to work to modify the undergraduate chemical engineering curriculum to improve the knowledge of process safety among BS graduates. In 2012, the CSB voted to declare this recommendation "closed, exceeding recommended action."

AIChE and CCPS are also pleased to support the continuing process safety education of experienced chemical engineers through a variety of courses, including one on IST.



CENTER FOR CHEMICAL
PROCESS SAFETY
120 WALL STREET
NEW YORK, NY 10005
SCOTT BERGER
Executive Director
TEL +1.646.495.1370
scotb@aiche.org
www.ccpsonline.org

April 16, 2014

The Honorable Barbara Boxer
The Honorable David Vitter
Senate Committee on Environment and Public Works
Washington, DC, 20510-6175

Dear Chairwoman Boxer and Ranking Member Vitter:

Thank you again for the opportunity to share my experience and insights as Executive Director of the Center for Chemical Process Safety (CCPS) at the recent hearing titled, "Preventing Potential Chemical Threats and Improving Safety: Oversight of the President's Executive Order on Improving Facility Safety and Security." Founded in 1985 by the American Institute of Chemical Engineers in response to the accident in Bhopal, India, CCPS identifies and addresses process safety needs within the chemical, pharmaceutical and petroleum industries. CCPS brings together manufacturers, government agencies, consultants, academia and insurers to lead the way in improving industrial process safety.

I am pleased to address your follow-up questions.

From Senator Boxer:

1. Mr. Berger, your testimony makes it clear that your organization supports the use of inherently safer technologies (IST) as part of the overall engineering process. Can you explain why it is that your organization supports this approach?

Response:

It is the essence of the engineering practice to seek safe, simple, elegant designs that economically and efficiently meet project and process requirements. Part of this practice is refining and improving past designs in cost, in efficiency, and in safety. Engineers employ a wide variety of tools in this quest and, when designing chemical, petroleum and related facilities, inherently safer design is one of many tools we use.

The goal in designing chemical and petroleum facilities is a facility that is efficient and economic and that protects the environment and the safety of workers and the host community. Any and all tools needed to accomplish these goals should be used. However, given the complexity of processes in such facilities and the unintended consequences that one design decision can have on the larger process, no one tool (including inherently safer design) should be emphasized over all other tools. Nothing is more important than arriving at a design that meets goals for safety, environmental performance, efficiency, and economics, no matter the variety of tools employed in a design.

The bottom line is that engineers must be skilled in inherently safer design, but we should not mandate that one tool of the many tools in an engineer's toolbox is most important.

From Senator Vitter:

1. Mr. Berger, in your testimony, you mentioned "process safety metrics." Can you please elaborate on what you mean by that and is this something you believe can be easily implementable yet have a discernable positive effect?

Response:

In the early 2000s, the University of Pennsylvania's Wharton School studied data provided to OSHA and EPA on companies' occupational safety records (e.g. personal injuries) and process safety records (e.g. fires, explosions, toxic releases). Using detailed and sophisticated analysis, Wharton determined that companies' occupational safety records do not correlate with companies' process safety records. In fact, a company could have a good occupational safety record and a poor process safety record, a poor occupational safety record and a good process safety record, both records could be good, or both records could be poor. This study, originally released on Wharton's website in 2003, was later published in a peer reviewed journal (Elliot, MR. et al., "Linking OII and RMP Data: Does Everyday Safety Prevent Catastrophic Loss?" International Journal of Risk Assessment and Management, Vol. 10, Nos. 1/2, 2008).

Interestingly, in light of the Wharton study, safety regulations under 29 CFR § 1910 require companies to report only occupational safety metrics, e.g., the Occupational Injury and Illness Rate (OII). Companies do, of course, work to reduce their OII rates, but, as the Wharton study showed, there can be no expectation that efforts to reduce OII will reduce process safety incidents. This was brought into stark relief in the case of BP Texas City. Prior to that facility's 2005 explosion and fire, the facility had a very low OII rate; however, as we now know, a process safety disaster was right around the corner.

Following the 2003 Wharton report, CCPS began studying metrics that would enable companies to track their process safety incident rates. In 2007, CCPS published "Process Safety Leading and Lagging Metrics ... You Don't Improve What You Don't Measure," and recommended that all chemical and petroleum companies worldwide begin collecting, using, and reporting process safety lagging metrics. Subsequently, in 2010, the American Petroleum Institute (API) developed Recommended Practice 754 based on CCPS's recommended metrics. Since 2011, all members of API and all members of the American Chemistry Council (ACC) have been collecting and reporting these metrics.

CCPS believes in the subtitle of its metrics report – "You Don't Improve What You Don't Measure." While it is too early to know for sure if process safety incident rates are broadly declining as a result of reporting these metrics for 2011, 2012, and 2013, we do know that having actual data based on a commonly-used approach is driving companies to compare results between plants and with other companies. This should lead companies to seek reductions, and should also lead them to identify which efforts are most effective in improving process safety performance.

CCPS is currently part of a global team led by API that is revising API Recommended Practice 754. By later this year, the revised standard should be even clearer and easier to use, providing a useful yardstick of performance for all facilities with the potential for process safety incidents.

2. Mr. Berger, just to be clear, given the resources available to EPA, do you believe the agency could successfully implement IST regulations?

Response:

As stated in my testimony, the current EPA regulations already address elements of IST, albeit in a fairly basic way. Arguably, EPA cannot enforce even the existing regulations fully, since only a small fraction of RMP sites are evaluated in any given year.

If the EPA desires to address IST in a more meaningful and in-depth way, EPA engineers will need to conduct detailed analyses of every plant design, effectively challenging design decisions that were made in order to determine whether or not effective opportunities to implement IST were overlooked. A large increase in resources above the current level would be needed.

3. In this hearing we have heard some people pushing for a "safety case" system. What has been your experience with "safety case?"

Response:

The United Kingdom's (UK's) off-shore facility regulator adopted the "Safety Case" approach in an effort to upgrade sparse and relatively ineffective regulations in place prior to the Piper Alpha Gas/Oil Platform explosion. The Safety Case regulation essentially requires platform operators to analyze the hazards and risks associated with their platforms and determine actions necessary to reduce those risks to as low a level as is reasonably practicable. The actual Safety Case regulatory language says little more than this.

UK regulators provide guidance documents that support how the risk analysis should be conducted and measures operators may take to reduce risks. Use of inherently safer technologies is one of the measures described for risk reduction.

It is not clear that the UK Safety Case regulation is more stringent than the EPA RMP or OSHA PSM regulations and, arguably, it may be less stringent. For example, the Safety Case is based on reducing risk, while the US EPA RMP regulation is based on reducing potential consequences. Risk is determined by multiplying potential consequences of accidents by frequency of occurrence. RMP does not allow companies to dismiss potential accidents from consideration because they would occur rarely, while Safety Case could allow it. Likewise, the RMP and PSM regulations are both quite prescriptive as to measures companies must take (e.g. collection of process and hazard information, management of change, pre-start-up safety review, training, mechanical integrity, incident investigation, and so on), while Safety Case allows a great deal of latitude on how companies may address their risks.

Where the Safety Case regulation may or may not be more stringent is that a company must make its Safety Case to the UK regulatory authority. In this way, the UK Safety Case is a permitting process. To obtain its "permit," the company must convince the authority that it has reduced its risk to a level as low as reasonably practicable. Of course, like any permitting process, it is subject to the knowledge and integrity of the company and the permitting officials. If the permitting officials are very knowledgeable, tough, and honest and provided in sufficient numbers, the company could be driven to operate at a higher standard than in the US. If the permitting officials are less so or are provided in insufficient number, the company may be able to have a weaker Safety Case approved.

So, since each facility under Safety Case must have its Safety Case approved, the bottom line is that Safety Case, whether its results are more or less stringent than current US practice, is more labor intensive for the regulatory agency.

Please contact me if you have further questions. Thank you.

Sincerely,



Scott Berger

Senator BOXER. Senator Carper.

Senator CARPER. Thank you, Madam Chair.

Thanks to all of you for joining us today and for your testimony. Following the disaster at West Fertilizer, the Department of Homeland Security, which my committee has jurisdiction over, determined that the facility had not complied with requirements to submit a so-called top-down top screen under the Chemical Facility Antiterrorism Standards Program, CFATS. Officials were actually unaware that the facility even existed. CFATS program, as you may know, at the Department of Homeland Security is not voluntary, it is mandatory, but it relies on self-reporting to identify which facilities need to be assessed for possible regulation. I think self-reporting can be effective, but only when there is full cooperation from industry.

My question is this. From your perspectives, how effective is self-reporting and what can be done to improve the effectiveness of these reporting programs to make sure that oversight agencies do have the information that they need?

Dr. Wilson, would you like to go first, please? Thank you.

Mr. WILSON. Thank you, Senator. Sure, just quickly. I think what we are looking at in California is the idea of required reporting with the direction moving with requiring facilities to rigorously evaluate a hierarchy of controls in which inherently safer design is the preferred outcome. The intent here is not to regulate inherently safer design, but to put in place a mechanism that motivates companies to do that and to invest in that, and moving companies toward good practices, standards, codes, learnings from similar incidents, documenting those, and justifying why or why they didn't take action.

And I guess, to your point, the challenge, I think, is that these are difficult and complex industries to operate and the process of reporting information, gathering that information is difficult and challenging in the crush of other business demands of function, price, and performance of getting product and services out the door. So we are looking at, yes, required reporting for that reason.

Senator CARPER. Thanks.

Others, please. Mr. Frederick.

Mr. FREDERICK. Self-reporting is somewhat akin to a voluntary initiative by those facilities covered, and a voluntary initiative is fine as long as all of the facilities covered choose to volunteer, but through a couple of important pieces through education and oversight by the regulatory agency, but most importantly of enforcement to make certain that the rules are being followed, that the voluntary compliance is being followed, and that a lack of compliance has some enforcement behind it so that it provides a level playing field for all involved.

Senator CARPER. OK, thanks.

Mr. Hansen.

Mr. HANSEN. In terms of the West Virginia chemical leak, the Freedom Industries site did self-report the types and amounts of chemicals it was storing onsite in accordance with the Emergency Planning and Community Right to Know Act, and the main issue there was not so much self-reporting as what did the State and

local officials and public water systems do with that information that was made available.

Senator CARPER. That is a great point. Thanks.

Mr. Pirkle.

Mr. PIRKLE. Our industry proposed and worked with Congress in 2005 to seek traceability regulations for ammonium nitrate, resulting in the Secure Holding of Ammonium Nitrate Act, which was signed into law in December 2007. There was an advanced public notice issued in October 2008 and a notice of final rulemaking in 2011. That rule is not final at this date, but we feel like that is a regulatory and we sort of led and approached Congress with that. We think that would have assisted in making that facility there in West, Texas, more visible.

Senator CARPER. Good. Thanks.

Mr. Berger, you have 30 seconds.

Mr. BERGER. On the subject of voluntary reporting with the subject of process safety metrics, which I talked about earlier, is encouraged that is voluntarily being reported by a number of the trade associations, by their members. I think I would also like to point out that, in terms of improvement of processes and greater safety, the RMP regulation does require companies to report every 5 years on their plans to improve their process safety, which is a good program and should be more encouraged.

Senator CARPER. Perfect. Thank you.

Thank you all very, very much.

Thank you, Madam Chair.

Senator BOXER. So the votes started, but I have a little time for questions, and I am going to take that time.

The problem with risk management doesn't include ammonium nitrate, so that is a problem for us.

Can I just thank all of you? You have been terrific. I know that it has been hard to talk in very quick sound bites. We are used to it, but you are not, so I know it is hard.

Mr. Hansen, you said in West Virginia the secondary containment failed. What was the secondary containment for this particular tank?

Mr. HANSEN. For this site, there was what I believe to be a concrete block wall that surrounded the tanks, but there were two issues with the secondary containment. One is that that wall was not properly watertight, and the second issue is that it appears that the fluid that spilled actually went under the wall, into the river.

Senator BOXER. Wow. You know, when I heard the name Freedom Industries, I thought, yes, the freedom to pollute everybody's drinking water. It is a horrible example, which leads me to Mr. Pirkle. I am so pleased to see this initiative. And, you know, what troubles me about all of this is there are so many good actors involved in this and you have a few bad actors. When something bad happens, it hurts everybody else and it hurts, of course, the people impacted, some of whom don't live to tell the tale.

So I am going to ask you, in this ResponsibleAg, it is a voluntary deal, but do you have plans to publicize the people who join? Because I would love to help you in that, and I think that is one way. You get the seal of approval. This is important for people to know.

When they give their business to a chemical fertilizer retail store, or wherever it is, that they have joined this group. So I wondered whether or not you intend to take your ResponsibleAg logo and make it prominent and be recognized, which I would love to help you with. What are your plans on that?

Mr. PIRKLE. Thank you, Madam Chair. Our plan is to have a public Web site developed, and those facilities that are vetted through the program would be published. We are in the early stages of branding the image, and the image would be branded and made available to those who successfully complete the program.

Senator BOXER. Good. Well, I can't encourage you enough, because, a, if only a few people join, it doesn't mean that much; b, if you make this a marketing tool in the private sector, this is a good thing. It is like the Energy Star. People look for the Energy Star because they know that that refrigerator is better, and I think we ought to build on that or the bill I wrote, Dolphin Safe Tuna. If that little picture on there and people will buy, rather than the other one. Because they are voting with their feet. So I want to encourage that.

My staff just handed me these unbelievable photographs. This is the wall that Mr. Hansen talked about, which had bricks just falling out. I don't know if you can see it, but I will leave it up here. If the press wants to see the condition of this. You don't have to have a degree in inspection to see the sorry state of affairs with Freedom Industries.

Well, Dr. Wilson, in what ways can Government motivate industry to adopt inherently safer design options?

Mr. WILSON. I was out, a week and a half ago, at the Tesero refinery, and the State of California had the authority to shut down the process that splashed acid on a couple of workers there, requiring their being air-lifted to UC-Davis Medical Center. It was a near miss. And in abating the problems sort of associated with that process, we could require the plant to implement training, we could require procedures, personal protective equipment. We could not require the plant to seriously investigate inherently safer design options, which other refineries have put in place 10 and 20 years ago for this particular process. So to motivate refineries in this case, but I think other plants, to take a direction toward a hierarchy of controls and inherently safer design, we have to require reporting, transparency, and, as I was saying, learnings from what the CSB has reported, and adherence to well recognized standards and codes in the industry itself.

Senator BOXER. So you are going to require that.

Mr. WILSON. That is the direction that the Task Force has recommended to 13 State agencies.

Senator BOXER. Good.

Mr. WILSON. We are moving forward with our regulations now.

Senator BOXER. Good. Because at the end of the day everybody benefits from this.

So I am running out of time, but I have one question for you, Mr. Hansen. I just want to say your understated approach belies, I know, what you feel about this West Virginia situation. What were the results of the in-home tap water testing that your company conducted in Charleston, did you find the chemicals from the Free-

dom Industries spill still in tap water, even after their plumbing systems were flushed?

Mr. HANSEN. We did. We did tap water testing in dozens of homes at the request of homeowners, they were our clients, and for the first set of samples that were taken between one and a half and 3 weeks after the all-clear was given, we continued to find polluted water was being delivered to people's homes. These were homes that had followed the proper flushing procedures and homes in which our technicians further purged the lines so that we were getting water as delivered by West Virginia American Water. In the first 10 homes that we tested during that time period, 4 out of those 10, or 40 percent, were still being delivered water that had quantities of MCHM.

Senator BOXER. You know, just talking to my colleagues from West Virginia, this has been a huge blow to that State. You just think about it. One company, a really bad, bad player, bad actor has caused untold misery. So I just want to say to all of you who were in Government, protecting workers, nonprofits, in the industry, I think at the end of the day it is such a win-win if we all work together and not fight each other on how to fix this, and that is what I am attempting to do with the Manchin bill; talk to the chemical people, talk to the State folks, talk to Senator Vitter.

We just need to be smart about this. There are so many chemicals out there, we all know that. We don't even know what they do, but the least we can do is make sure they are stored safely and then make sure that, because they are stored in the right way, we don't face all these other questions and whether or not this is going to really cause lasting harm.

So I just wanted to thank the whole panel. I felt that the tenor of this was terrific. I call on the Working Group to get busy. They are not moving as fast as I would like to see because there is more we can do. But this committee stands ready to assist in all areas regarding West Virginia and the West explosion, because we don't want to see the misery that has hit too many of our families.

Thank you. We stand adjourned.

[Whereupon, at 11:34 a.m. the committee was adjourned.]

[An additional statement submitted for the record follows:]

STATEMENT OF HON. JAMES M. INHOFE,
U.S. SENATOR FROM THE STATE OF OKLAHOMA

I want to thank Chairman Boxer for holding this hearing, and I also want to note how deeply saddened I am by the loss of life that's been experienced at the chemical plant incidents over the last year. They are tragic, and my thoughts and prayers are with the impacted families.

In light of this, I think it's important that we highlight the great work that industry has been doing to respond to these incidents to make sure the risk of future accidents is minimized.

The Fertilizer Institute, which we'll hear from during the second panel, has led the way, responding quickly and aggressively to the accident that occurred in West, Texas.

Though the cause of that accident remains unknown, TFI has identified that one of the major areas where improvements can be made across the industry is through education about safety regulations and compliance with them.

Together with the Agriculture Retailers Association, they've created ResponsibleAg, which will serve as a voluntary accountability organization that will provide assessments to fertilizer facilities and other agriculture retailers to ensure they're up to date with regulations, particularly as they relate to the handling of ammonium nitrate and anhydrous ammonia.

These assessments will be done every 3 years by auditors credentialed by ResponsibleAg.

This is the kind of responsible action that displays the commitment of the private sector to conduct their operations in a safe and efficient manner, and I applaud them for the work they're doing.

Unfortunately, there are many who would like to use these tragedies as an opportunity to force Inherently Safer Technologies (IST) into regulations, which would give Government agencies the ability to mandate the designs of manufacturing processes.

It's a goal that's inherent to the President's Executive Order 13650, and it's something that the Chemical Security Board wants to implement. EPA also thinks we should thoroughly evaluate the idea.

But when you stop and think, it's actually in every industry's interest to design their facilities in the safest way possible. A disaster like those we're discussing today can bankrupt companies; there is no incentive to be reckless in design. In fact, all normal business incentives direct companies in the opposite direction.

Because of that, there is no need for the Government to exercise the kind of power that would be needed to evaluate and approve the manufacturing processes of every chemical facility, which is what IST regulations would require.

If the Federal Government were given the power to mandate IST, all it would do is limit the great potential for innovation within this industry—which would quell its growth.

The United States' chemical industry employs nearly 800,000 people with an average wage of nearly \$85,000, and the industry is booming—in just the last few years, nearly \$100 billion in new facilities and expansions have been announced.

The last thing we want is for this trend to stop. Safety and security are mutual goals of industry and Government, but mandating IST is the wrong approach. Rather than encourage this manufacturing renaissance, it would cause a chilling effect to ripple across the entire industry and stop this major growth story in its tracks.

[Additional material submitted for the record follows:]



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."

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 of 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 Justice³, 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.

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).

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



IME
institute of makers of explosives

NSSGA NATIONAL STONE, SAND
& GRAVEL ASSOCIATION



SAFETY AND SECURITY GUIDELINES FOR AMMONIUM NITRATE

1.0 SCOPE AND PURPOSE

1.1 This Guideline covers a single hazardous material – Technical Grade Ammonium Nitrate (TGAN), except where otherwise noted.

1.1.1 TGAN is a US Department of Transportation (DOT) Class 5 Oxidizer, Division 5.1, UN1942, PG III material.

1.1.2 TGAN is a US Department of Homeland Security (DHS) chemical of interest listed in Appendix A of the Chemical Facility Anti-Terrorism Standards with a theft - diversion security issue. (Solid ammonium nitrate (AN) with a minimum concentration of 33% or greater, and a nitrogen concentration of 23% or greater, has a Screening Threshold Quantity for risk of theft-diversion of 2,000 pounds).

The International Association of Fire Chiefs represents the leadership of firefighters and emergency responders worldwide; our members are the world's leading experts in firefighting, emergency medical services, terrorism response, hazardous materials spills, natural disasters, search and rescue, and public safety policy. Since 1873, the IAFC has provided a forum for fire and emergency service leaders to exchange ideas, develop professionally and uncover the latest products and services available to first responders.

IME is the safety and security institute of the commercial explosives industry. Our mission is to promote safety and the protection of employees, users, the public and the environment; and to encourage the adoption of uniform rules and regulations in the manufacture, transportation, storage, handling, use and disposal of explosive materials used in blasting and other essential operations. The Institute does not sponsor trade shows or other marketing events.

The International Society of Explosives Engineers was formed in 1974 as a professional society dedicated to promoting the safety, security and the controlled use of explosives in mining, quarrying, construction, demolition, geophysical exploration, manufacturing, and many other peaceful uses. Its' mission is to advance the science and art of explosives engineering, which is accomplished through the development of knowledge and education based tools, while creating venues to promote peer interaction and the sharing of information. We currently provide for the technical advancement of our industry through a variety of forums, magazines, conferences, expositions, publications, technical manuals, and proceedings. These have all been well received by our membership and others in the industry.

NSSGA is the world's largest mining association by product volume. Its member companies represent more than 90% of the crushed stone and 70% of the sand and gravel produced annually in the U.S. and approximately 110,500 working men and women in the aggregates industry. During 2012, a total of two billion metric tons of crushed stone, sand and gravel, valued at \$17.4 billion, were produced and sold in the United States.

13DEC13

1120 Nineteenth Street, NW, Suite 310, Washington, DC 20036, USA, (202) 429-9280, FAX (202) 293-2420

- 1.2 The purpose of this Guideline is to outline best practices for the safety and security of TGAN in manufacturing, storage, and transportation from risks of fire, shock, and misappropriation. The manufacturing section of the document addresses precautions applicable to both solid TGAN and liquid forms of AN. All other sections apply only to solid TGAN.

2.0 SAFETY

- 2.1 Owner/operators of all TGAN facilities should be aware that the safety of their workplaces and operations may be subject to the Occupational Safety and Health Act General Duty Clause at 29 U.S.C. § 654(a)(1).

2.1.1 Manufacturing

- 2.1.1.1 Where applicable, owner/operators of manufacturing sites must comply with the OSHA Process Safety Management Standard (PSM) at 29 CFR 1910.119.
- 2.1.1.2 Avoid heating TGAN in a confined space above 170°C (e.g., processes involving TGAN should be designed to avoid this possibility).¹
- 2.1.1.3 Avoid localized heating of TGAN, potentially leading to development of high temperature areas.²
- 2.1.1.4 Owner/operators should ensure that facilities have implemented a “hot work” program consistent with OSHA requirements at 29 CFR 1910.252.³
- 2.1.1.5 Ensure that TGAN is not exposed to shock (e.g., shock waves from explosives).⁴
- 2.1.1.6 Avoid contamination of TGAN with combustible materials or organic substances including but not limited to; (i) organic chemicals, acids, or other

¹ EPA Chemical Safety Alert, *Explosion Hazard from Ammonium Nitrate* (Dec. 1997). (Modified).

² EPA Chemical Safety Alert. See also, EPA/ATF/OSHA *Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate* (Aug. 2013).

³ Industry Best Practice.

⁴ EPA Chemical Safety Alert. (Modified). See also, EPA/ATF/OSHA *Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate* (Aug. 2013).

corrosive materials, (ii) compressed flammable gases, (iii) flammable and combustible materials, solids or liquids, and (iv) other contaminating substances such as wood chips, organic materials, chlorides, phosphorus, finely divided metals, charcoals, diesel fuels and oils, sulfur.⁵

- 2.1.1.7 Avoid contamination of TGAN with inorganic materials that may contribute to its sensitivity to explosion, including chlorides and some metals, such as chromium, copper, copper alloys such as brass or bronze, cobalt, and nickel, and finely divided or powdered metals.⁶
- 2.1.1.8 Maintain the pH of AN solutions within the safe operating range of the process. In particular, avoid low pH (acidic) conditions.⁷
- 2.1.1.9 Ensure that all electrical components/systems are in compliance with the National Electrical Code.⁸
- 2.1.1.10 Ensure that the facility has implemented a Lock Out/Tag Out program in accordance with 29 CFR 1910.147.⁹
- 2.1.1.11 Avoid personnel exposure to hot AN solution.¹⁰
- 2.1.1.12 Avoid the introduction of gasses in hot, high strength AN solutions.¹¹
- 2.1.1.13 Facility access points should be posted “NO SMOKING, NO OPEN FLAMES.”¹²
- 2.1.1.14 All manufacturing facility access points should be posted with a durable, reflective danger warning sign at least 4ft. x 4ft. where it is visible to fire responders and police. The warning sign text and important

⁵ NFPA 400 (2013).

⁶ EPA Chemical Safety Alert. (Modified). See also, EPA/ATF/OSHA *Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate* (Aug. 2013).

⁷ *Id.*

⁸ Industry Best Practice.

⁹ Industry Best Practice.

¹⁰ Industry Best Practice.

¹¹ Industry Best Practice.

¹² Industry Best Practice.

HazCom information should state: “WARNING. DO NOT FIGHT AMMONIUM NITRATE FIRES. Refer to ERG Guide 140 and Safety Data Sheet (SDS).¹³ In case of an emergency CALL 9-1-1 or [local emergency number].”¹⁴

2.1.1.15 Owner/operators of manufacturing facilities should develop a written plan responding to emergencies as defined by 29 CFR 1910.120(a)(3) and provide training to employees implementing the emergency plan pursuant to 29 CFR 1910.120(q) or 1910.38 as appropriate.

2.1.1.16 Plans prepared under section 2.1.1.15 should be provided to local emergency responders. Owner/operators should provide local emergency responders with current copies of SDSs and review appropriate fire response (DO NOT FIGHT AMMONIUM NITRATE FIRES).¹⁵

2.1.1.17 Owner/operators should provide information to customers describing the hazards associated with TGAN, proper management and housekeeping requirements, and information regarding regulatory requirements applicable to the safe storage of the material.¹⁶

2.1.2 Storage

2.1.2.1 General Requirements

2.1.2.1.1 All TGAN storage sites should comply with 29 CFR 1910.109(i).¹⁷ At sites where compliance with any

¹³ The term “material safety data sheet” is being replaced by the term “safety data sheet” pursuant to OSHA’s implementation of the GHS through its Hazard Communication Rules. See 49 CFR 1910.1200.

¹⁴ Industry Best Practice.

¹⁵ Industry Best Practice. Facilities subject to PSM will have emergency action plans.

¹⁶ IME (derived from the terms of the Settlement Agreement between IME and EPA, No. 94-1276 (1996)).

¹⁷ We suggest the following amendments to 1910.109(i):

- 1910.109(i)(1)(ii)(b) – delete this provision. The document incorporated by reference is obsolete and is no longer available.
- 1910.109(i)(4)(ii)(b) – prohibit the use of wooden bins.
- 1910.109(i)(4)(iii)(b) – delete the “pressure-setting tendency” limitation as there is no technical basis for this requirement.
- 1910.109(i)(7)(ii)(b) – provide an exception for remote locations where access to a municipal/regional water supply is unavailable.

provision is impracticable, the owner/operator should demonstrate that an equivalent level of safety is maintained through alternative means.¹⁸

- 2.1.2.1.2 Owner/operators of TGAN storage sites should ensure that facilities are in full compliance with applicable requirements of the Emergency Planning and Community Right to Know Act. 42 U.S.C. §§ 11001 – 11050.
- 2.1.2.1.3 Smoking, open flames, and unauthorized sparking or flame-producing devices should be prohibited.¹⁹
- 2.1.2.1.4 Bins and structural materials/members in immediate contact with TGAN should be constructed of non-combustible materials.²⁰
- 2.1.2.1.5 Storage areas should be inspected regularly by an individual(s) trained to identify potential hazards and ensure that all safety control measures are being properly implemented. Any identified hazards should be addressed immediately.²¹
- 2.1.2.1.6 Owner/operators should ensure that facilities have implemented a “hot work” program consistent with OSHA requirements at 29 CFR 1910.252.²²
- 2.1.2.1.7 Owner/operators of storage facilities should develop a written plan responding to emergencies as defined by 29 CFR 1910.120(a)(3) and provide training to employees implementing the emergency plan pursuant to 29 CFR 1910.120(q) or 1910.38 as appropriate.

¹⁸ Industry Best Practice.

¹⁹ Industry Best Practice.

²⁰ Industry Best Practice. This provision differs from both 1910.109(i)(4)(ii)(a), and NFPA 400 11.3.2.3.3.3 which allow the use of wooden and aluminum bins.

²¹ Industry Best Practice.

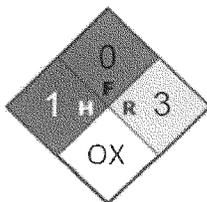
²² Industry Best Practice.

2.1.2.1.8 Plans prepared under section 2.1.2.1.7 should be provided to local emergency responders. The owner/operator should provide local emergency responders with current copies of SDSs and review appropriate fire response (DO NOT FIGHT AMMONIUM NITRATE FIRES).²³

2.1.2.1.9 Owner/operators should host community awareness “open houses” to demonstrate to the community the measures taken to ensure safety and security.²⁴

2.1.2.2 Notification Warnings

2.1.2.2.1 Buildings and bins where TGAN is stored should be marked with a hazard rating “fire diamond” meeting the standards of NFPA 704. The NFPA fire diamond should be situated, with the concurrence of the authority having jurisdiction, where it is clearly visible to first responders, police, or other individuals attempting to access the area. The following is the NFPA fire diamond for TGAN:²⁵



2.1.2.2.2 The contents of each bin should be clearly identified by the proper shipping name of the material, “AMMONIUM NITRATE” written in 2-inch high, capital letters below the NFPA fire diamond.²⁶

²³ Industry Best Practice.

²⁴ ATF Suggested Voluntary Actions.

²⁵ NFPA 704 (2012).

²⁶ NFPA 400, Chapter 11.3.2.3.3.6.

2.1.2.2.3 All storage facility access points should be posted with a durable, reflective danger warning sign at least 4ft. x 4ft. where it is visible to fire responders and police. The warning sign text and important HazCom information should state: "WARNING. DO NOT FIGHT AMMONIUM NITRATE FIRES. Refer to ERG Guide 140 and Safety Data Sheet. In case of an emergency CALL 9-1-1 or [local emergency number]."²⁷

2.1.2.2.3.1 All storage facility access points should be posted "NO SMOKING, NO OPEN FLAMES."²⁸

2.1.2.3 Bulk Storage

2.1.2.3.1 ATF Licensed Locations

2.1.2.3.1.1 Bulk storage of TGAN at ATF licensed locations should comply with applicable ATF regulations at 27 CFR 555.220, in addition to the requirements in section 2.1.2.1.1.

2.1.2.3.2 Non-ATF Licensed Locations

2.1.2.3.2.1 Bulk storage of TGAN at non-ATF licensed locations should comply with the requirements in section 2.1.2.1.1.

2.1.2.3.3 Mine Sites

2.1.2.3.3.1 Bulk storage of TGAN at mine sites should comply with the requirements in section 2.1.2.1.1.²⁹

2.1.2.3.3.2 TGAN storage at mine sites should be in accordance with 27 CFR 555.220.

2.1.2.3.4 Rail Sidings³⁰

²⁷ Industry Best Practice.

²⁸ Industry Best Practice.

²⁹ The Mine Safety & Health Administration has not promulgated regulations addressing the storage of TGAN at mine sites. IME recommends that owner/operators apply the provisions of 29 CFR 1910.109(i) (or equivalent safety measures) for mine site storage.

³⁰ Industry Best Practice.

2.1.2.3.4.1 Bulk storage of TGAN at rail siding areas should comply with applicable requirements in section 2.1.2.1.1.

2.1.2.3.4.2 The hazards associated with TGAN should be communicated using a U.S. DOT placard pursuant to 29 CFR 1910.1201.



2.1.2.3.4.3 Storage bins at railcar siding areas should be posted with a CHEMTREC notice or other decal representing a nationally recognized emergency response information system for hazardous materials shipments to which the owner/operator of the TGAN bins is a subscriber. The decal should be of sufficient size and situated where it is clearly visible to first responders, police, or other individuals attempting to access the rail siding area.

2.1.2.3.4.4 Electrical Fire Hazards

2.1.2.3.4.4.1 An assessment should be made of all electrical hazards at rail sidings and safety measures taken to reduce the likelihood of a fire caused by the electrical power source, motors, and conduit required to off-load a rail car into a bin.

2.1.2.3.4.5 Fire Protection

2.1.2.3.4.5.1 Water supplies, fire hydrants, or other suitable fire control devices

such as portable fire extinguishers meeting the standards prescribed in IME SLP-14 should be readily identified for immediate use for small fires that have not engaged TGAN at the site.

2.1.3 Transportation

2.1.3.1 Owner/operators must ensure that all transportation-related activities are in full compliance with applicable DOT hazardous materials requirements at 49 CFR 171-178.

2.1.3.1.1 Truck

2.1.3.1.1.1 Motor carriers must comply with hazardous materials requirements at 49 CFR 177 and 397.

2.1.3.1.1.2 Motor carriers must maintain financial responsibility as required by 49 CFR 387.9.

2.1.3.1.1.3 Drivers

2.1.3.1.1.3.1 Drivers should possess a current, state-issued commercial driver's license with a hazardous materials endorsement as required under 49 CFR 383.121.

2.1.3.1.1.3.2 Drivers should have received hazardous materials training as required by 49 CFR 172.704.

2.1.3.1.1.4 Vehicles³¹

2.1.3.1.1.4.1 Vehicles used to transport TGAN should meet standards prescribed in IME SLP-23.

2.1.3.1.1.5 Bin Loading and Unloading³²

³¹ Industry Best Practice.

³² Industry Best Practice.

- 2.1.3.1.1.5.1 The parking of vehicles under or near a bin for any purpose other than loading or unloading TGAN or necessary maintenance of the bin is prohibited.
- 2.1.3.1.1.5.2 The engine of the power unit should be shut off while under a TGAN bin except as needed for loading or unloading operations.
- 2.1.3.1.1.5.3 Wheel chocks should be used when loading or unloading TGAN from a bin when the vehicle is unattended.
- 2.1.3.1.1.5.4 After loading is completed, the vehicle should immediately be moved to a location at least 50ft. from the bin.

2.1.3.1.2 Rail

- 2.1.3.1.2.1 Rail transporters must comply with applicable DOT hazardous materials regulations at 49 CFR 174.

2.1.3.1.3 Barge

- 2.1.3.1.3.1 Facilities at which TGAN is loaded or unloaded from barges must comply with 33 CFR 126 for a "cargo of particular hazard".

3.0 SECURITY

3.1 Manufacturing and Storage Facilities³³

- 3.1.1 The owner/operator must comply with applicable regulations promulgated by DHS at 6 CFR 27, and USCG at 33 CFR 105.

³³ Owner/operators of non-CFATS regulated facilities should consider using the 18 areas of risk described in DHS' "Risk-Based Performance Standards Guidance, Chemical Facility Anti-Terrorism Standards" (May, 2009), to assess manufacturing or storage vulnerabilities when developing emergency response plans as recommended at sections 2.1.1.15 and 2.1.2.1.7.
http://www.dhs.gov/xlibrary/assets/chemsec_cfats_riskbased_performance_standards.pdf.

- 3.1.2 The owner/operator should conduct a thorough site vulnerability assessment to identify gaps in TGAN security and develop and implement appropriate security control measures that will mitigate these security gaps. Considerations should be given to deter, to delay, to detect, and to respond to the identified potential security issues.³⁴
- 3.1.3 Employees at TGAN manufacturing and storage facilities should undergo a background check by the employer.³⁵
- 3.1.4 Access by visitors, service subcontractors, and third-party transporters should be approved by management.³⁶
- 3.1.5 All TGAN manufacturing and storage facilities should institute a system for accountability of bulk TGAN pursuant to IME Safety Library Publication No. 28 (SLP-28). Accurate inventory records should be maintained.³⁷
 - 3.1.5.1 Owners/operators of manufacturing and storage facilities should document and report unexplained losses, thefts, or otherwise unaccounted for shortages of TGAN to the local Joint Terrorism Task Force (JTTF), as well as local law enforcement.³⁸
- 3.1.6 All keys used to access TGAN manufacturing and storage areas should be controlled by the owner/operator and managed in the same manner as keys for explosive magazines.³⁹
- 3.1.7 Lost keys should be immediately reported to management and should be considered a breach of security. The cores of all locks should be changed or new locks/keys issued as soon as possible.⁴⁰
- 3.1.8 Bins should be kept padlocked at all times, except to load or unload TGAN.⁴¹
- 3.1.9 Locking points include the unloading hatch or gate, the ladder, and the top hatches.⁴²

³⁴ Industry Best Practice.

³⁵ Industry Best Practice and ATF Suggested Voluntary Actions

³⁶ Industry Best Practice.

³⁷ Industry Best Practice.

³⁸ Industry Best Practice and ATF Suggested Voluntary Actions.

³⁹ Industry Best Practice.

⁴⁰ Industry Best Practice and ATF Suggested Voluntary Actions.

⁴¹ Industry Best Practice.

⁴² Industry Best Practice.

- 3.1.10 Report all suspicious behavior to an appropriate supervisor or, if unavailable, to the local JTTF or local law enforcement.⁴³
- 3.1.11 Owners/operators should maintain regular communications with local law enforcement agency(ies), and should encourage regular patrols in the area of the facilities.⁴⁴
- 3.1.12 Owners/operators should institute a “KNOW YOUR CUSTOMER” program. Information should include (but not be limited to) sales records, statements of intended use of purchased TGAN, and records of ATF permit/license numbers, where applicable. A record of this information should be retained for at least 2 years.⁴⁵

3.2 Transportation

3.2.1 Highway

- 3.2.1.1 Owner/operators should consider implementing relevant and appropriate voluntary Security Action Items recommended by TSA for Tier 2 Highway Security-Sensitive Materials. See <http://www.tsa.gov/highway-security-sensitive-materials-hssm-security-action-items-sais>.

3.2.2 Rail

- 3.2.2.1 Rail cars should arrive at the rail siding with the shipper’s security seals affixed to all top hatches and bottom gates.⁴⁶
- 3.2.2.2 All shipper seal serial numbers should be checked to ensure they match the bill of lading for the rail car. If any seal number is incorrect, the owner/operator should call the shipper. If any seal shows signs of tampering or removal, the shipper, local JTTF, and local law enforcement should be contacted immediately.
- 3.2.2.3 The shipper’s security seals attached to the gates should be removed and replaced by the rail siding owner/operator’s padlock.

⁴³ Industry Best Practice.

⁴⁴ Industry Best Practice.

⁴⁵ ATF Suggested Voluntary Actions.

⁴⁶ TSA recommends that a “Seal/Lock Control Program” be implemented.

- 3.2.2.4 If any shipper's security seal is removed from the top hatches of a rail car by the rail siding operator to gain access for any reason, the rail siding operator's security seal should be affixed to the hatch.
 - 3.2.2.5 Empty railcars do not have to be padlocked, but should be affixed with the rail siding operator's security seals and the serial numbers of these should be recorded and retained for at least 2 months.
- 3.2.3 Barge
- 3.2.3.1 Owner/operators shipping TGAN by barge should comply with applicable provisions of 46 U.S.C. §70103 for "especially hazardous cargo".

TESTIMONY OF
Peter S. Silva
ASSISTANT ADMINISTRATOR
FOR WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES

October 1, 2009

Introduction

Good morning Mr. Chairman, Ranking Member Upton, and Members of the Subcommittee. I am Peter Silva, Assistant Administrator for Water at the United States Environmental Protection Agency. I welcome this opportunity to discuss EPA's efforts to promote security and resiliency in the Water Sector with an emphasis on our role in addressing chemical security at drinking water facilities.

I will also reiterate with my colleague from the Department of Homeland Security (DHS) our shared conclusion that a critical gap exists with respect to the Water Sector in the framework for regulating the security of chemical facilities in the United States. The Subcommittee has demonstrated both leadership and thoughtfulness in drafting a bill, the Drinking Water System Security Act of 2009, with the intention of closing this gap for drinking water systems. EPA supports the general structure and approach of this bill. In my remarks, I will offer some comments on this bill, as well as how EPA would coordinate with DHS in addressing chemical security at water and wastewater facilities.

EPA has worked over the last several years to support the Water Sector in improving security and resiliency, and I am pleased to report that the sector has taken its charge seriously. EPA has been entrusted with important responsibilities for coordinating the protection of the Water Sector through Congressional authorization under the *Public Health Security and Bioterrorism Preparedness and*

Response Act of 2002 (the Bioterrorism Act), and through Presidential mandates under Homeland Security Presidential Directives (HSPD) 7, 9 and 10.

Promoting the security and preparedness of the Nation's water infrastructure remains a priority of the Agency in a post-9/11 and post-hurricane Katrina world. A loss of water service can seriously jeopardize the public health, economic vitality, and general viability of a community. In working with the Water Sector, we have emphasized a multi-layered approach to security consisting of prevention, detection, response, and recovery so that we can assist water facilities in avoiding incidents and, should an incident occur, in quickly identifying and recovering from such events.

Implementation of Section 1433 of the Safe Drinking Water Act

Existing statutory requirements address chemical security at drinking water systems to a degree. Section 1433 of the Safe Drinking Water Act (added by the Bioterrorism Act of 2002) required each community water system providing drinking water to more than 3,300 persons to conduct a vulnerability assessment, certify its completion, and submit a copy of the assessment to EPA. These vulnerability assessments addressed security at water systems comprehensively, from water collection to treatment and distribution, and they specifically included the use, storage, or handling of chemicals. In addition, Section 1433 required each water system to prepare or revise an emergency response plan that incorporates the findings of the vulnerability assessment and to certify to EPA that the system has completed such a plan.

Since 2003, EPA has received 100% of the vulnerability assessments and emergency response plan certifications from large and medium community water systems. Over 99% of small community water systems serving between 3,300 and 50,000 people have submitted their vulnerability assessments and emergency response plan certifications.

EPA's Role in Chemical Security for Drinking Water Utilities

EPA's current approach for addressing chemical security in the Water Sector involves a long-standing effort to promote the voluntary adoption of countermeasures by water facilities. Before I discuss some of these activities, however, I would like to take a step back to consider the broader implications of chemical security for the Water Sector. It is of paramount importance for us to acknowledge in this discussion that the primary purpose of drinking water systems is the delivery of safe drinking water to consumers. In fact, the effective treatment of drinking water to control infectious diseases like typhoid and cholera has been hailed by the U.S. Centers for Disease Control as one of the great public health achievements of the twentieth century.

Therefore, authorizing language should allow for a consideration of this essential public health mission, particularly with respect to any provision which may require a facility to consider alternative water treatment processes. In other words, chemical security regulations when applied to the Water Sector should enable a reasoned balance of multiple, important factors so that we can achieve the joint policy goal of protecting public health while enhancing security. Such factors include: efficacy of treatment in meeting public health and environmental requirements, security concerns, reliability of treatment, source water characteristics, feasibility, and operator safety.

Tools and Technical Assistance

EPA has worked closely with the Water Sector to assess and reduce the risks associated with hazardous chemicals. To this end, EPA and industry associations, often in partnership, have developed tools, training and technical assistance to help drinking water utilities identify and mitigate those risks. A few examples of our efforts are as follows:

1. We developed tools that assist drinking water systems with assessing vulnerabilities, including chemical storage and handling. Examples of the tools include:
 - The *Vulnerability Self Assessment Tool (VSAT™)* – a software package that supports water and wastewater utility vulnerability assessments using a qualitative risk assessment methodology;
 - The *Security Vulnerability Self-Assessment Guide for Small Drinking Water Systems* – a manual specifically designed to help small water systems conduct vulnerability assessments; and
 - The *Security Vulnerability Self-Assessment Guide for Very Small (<3,300) Systems*, which assists these systems in assessing their critical components and identifying security measures that should be implemented.
2. Under the Bioterrorism Act of 2002, EPA created a document to “provide baseline information to community water systems...regarding which kinds of terrorist attacks or other intentional acts are the probable threats to: (A) substantially disrupt the ability of the system to provide a safe and reliable supply of drinking water; or (B) otherwise present significant public health concerns.” The baseline threat document addressed vulnerabilities related to the use, transfer and storage of chemicals, including the evaluation of different disinfection options. EPA provided this document to drinking water facilities to assist them in conducting their vulnerability assessments.
3. The National Association of Clean Water Agencies (NACWA) has worked with the Department of Homeland Security (DHS) and EPA to create a Chlorine Gas Decision Tool for Water and Wastewater Utilities. The Tool is designed to provide utilities with a user-friendly, but thorough, means of evaluating alternatives to chlorine gas disinfection.

4. EPA created a series of Security Product Guides that assist water facilities with making enhancements to reduce risks and protect against man-made and naturally occurring events. These guides provide recommendations for improving physical security, such as the use of barriers, placement and security of aboveground equipment, selection of fencing materials, and the use of visual surveillance monitoring systems, all of which can help to secure hazardous chemicals used by water facilities.
5. We funded a cooperative agreement with the American Society of Civil Engineers, the American Water Works Association, and the Water Environmental Federation to develop Voluntary Physical Security Standards for drinking water and wastewater systems. Completed in December 2006, these voluntary standards address storage of hazardous or toxic chemicals, including chlorine and ammonia gas.
6. EPA developed ALOHA (Aerial Locations of Hazardous Atmospheres) – software that models the dispersion and health effects of hazardous substances. DHS uses this tool in its Chemical Facilities Anti-Terrorism Standards (CFATS) program.

Risk Management Plans

In addition to the above activities, EPA's Chemical Accident Prevention Provisions (40 CFR 68.1 - .220), developed under the authority of the Clean Air Act, Section 112(r), requires utility processes containing certain levels of specific hazardous substances to implement an accident prevention program, conduct a hazard assessment, prepare and implement an emergency response plan, and submit to EPA a summary report known as a risk management plan (RMP). The RMP must describe the facility's accidental release prevention and emergency response policies, the regulated substances handled at the facility, the worst-case release scenario(s) and alternative release scenario(s), the 5-year accident history of the facility, the Emergency Response Plan, and planned changes to improve safety at the facility (see 40 CFR Part 68). Hazardous chemicals of most relevance to the Water Sector, including gaseous chlorine, ammonia, sulfur dioxide, and chlorine dioxide, trigger RMP regulatory requirements if they exceed certain threshold quantities.

Drinking Water System Security Act of 2009

To turn to the proposed bill, I first and foremost want to commend the Committee and your staff for developing a bill for the purpose of addressing the regulatory gap on security at water sector facilities. In commenting on the bill, it would be remiss of me not to acknowledge all of the effort and thoughtfulness which you have invested in it.

While the focus of the discussion is on the chemical security provisions of the bill, it is important to underscore that the bill also addresses water security risks in general. The bill, for example, requires all drinking water facilities serving over 3,300 people to update their vulnerability assessments and emergency response plans every five years. Under the bill, these assessments and plans are not limited to chemical security, but cover the full array of potential water system vulnerabilities, from pipes and constructed

conveyances to storage facilities and electronic systems. As such, the bill provides statutory authority for EPA to continue to promote the risk reduction goals of the 2002 Bioterrorism Act.

Considerations on the Bill

It is important to note that the Administration has developed a set of guiding principles for the reauthorization of CFATS and for addressing the security of our Nation's wastewater and drinking water treatment facilities. These principles are:

- 1) The Administration supports permanent chemical facility security authorities and a detailed and deliberate process for doing so, hence our preference for that process to be completed in FY10.
- 2) Nonetheless, CFATS single year reauthorization in this session presents an opportunity to promote the consideration and adoption of inherently safer technologies (IST) among high risk chemical facilities. We look forward to working with this Committee and others on this important matter.
- 3) CFATS reauthorization also presents an opportunity to close the existing security gap for wastewater and drinking water treatment facilities by addressing the statutory exemption of these facilities from CFATS. The Administration supports closing this gap.

As DHS and EPA have stated before, we believe that there is a critical gap in the U.S. chemical security regulatory framework—namely, the exemption of drinking water and wastewater treatment facilities. We need to work with Congress to close this gap in order to secure substances of concern at these facilities and to protect the communities they serve; drinking water and wastewater treatment facilities that meet CFATS thresholds for chemicals of interest should be regulated. We do, however, recognize the unique public health and environmental requirements and responsibilities of such facilities. For example, we understand that a "cease operations" order that might be appropriate for another facility under CFATS would have significant public health and environmental consequences when applied to a water facility. The Administration has established the following policy principles in regards to regulating security at water sector facilities:

- The Administration believes EPA should be the lead agency for chemical security for both drinking water and wastewater systems, with DHS supporting EPA's efforts. Many of these systems are owned or operated by a single entity and face related issues regarding chemicals of concern. Establishing a single lead agency for both will promote consistent and efficient implementation of chemical facility security requirements across the water sector.
- To address chemical security in the water sector, EPA would utilize, with modifications as necessary to address the uniqueness of the sector, DHS' existing risk assessment tools and performance standards for chemical facilities. To ensure consistency of tiering determinations across high-risk chemical facilities, EPA would apply DHS' tiering methodology, with modifications as necessary to reflect any differences in statutory requirements. DHS would in turn run its Chemical Security Assessment Tool and provide both preliminary and proposed final tiering determinations for water sector facilities to EPA. EPA and DHS would strive for consensus in this tiering process with EPA, in its final determination, attaching significant weight to DHS' expertise.
- EPA would be responsible for reviewing and approving vulnerability assessments and site security plans as well as enforcing high-risk chemical facility security requirements. Further, EPA would be responsible for inspecting water sector facilities and would be able to authorize states to conduct inspections and work with water systems to implement site security plans. It is important to note that any decisions on IST methods for the water sector would need to engage the states given their primary enforcement responsibility for drinking water and wastewater regulations.
- DHS would be responsible for ensuring consistency of high-risk chemical facility security across all 18 critical infrastructure sectors.

CFATS currently allows, but does not require, high-risk facilities to evaluate transferring to safer and more secure chemicals and processes. Many facilities have already made voluntary changes to, among other things, their chemical holdings and distribution practices (for example, completely eliminating use of certain chemicals of interest). The Administration supports, where possible, using safer technology, such as less

toxic chemicals, to enhance the security of the nation's high-risk chemical facilities. However, we must recognize that risk management requires balancing threat, vulnerabilities, and consequences with the cost to mitigate risk. Similarly, the potential public health and environmental consequences of alternative chemicals must be considered with respect to the use of safer technology. In this context, the Administration has established the following policy principles in regards to IST at high-risk chemical facilities:

- The Administration supports consistency of IST approaches for facilities regardless of sector.
- The Administration believes that all high-risk chemical facilities, Tiers 1-4, should assess IST methods and report the assessment in the facilities' site security plans. Further, the appropriate regulatory entity should have the authority to require facilities posing the highest degree of risk (Tiers 1 and 2) to implement IST method(s) if such methods enhance overall security, are feasible, and, in the case of water sector facilities, consider public health and environmental requirements.
- For Tier 3 and 4 facilities, the appropriate regulatory entity should review the IST assessment contained in the site security plan. The entity should be authorized to provide recommendations on implementing IST, but it would not require facilities to implement the IST methods.
- The Administration believes that flexibility and staggered implementation would be required in implementing this new IST policy. DHS, in coordination with EPA, would develop an IST implementation plan for timing and phase-in at water facilities designated as high-risk chemical facilities. DHS would develop an IST implementation plan for high-risk chemical facilities in all other applicable sectors.

In addition to articulating these principles, I also would like to comment on two aspects of the bill which have significant relevance to its successful implementation. The first issue pertains to resources. Passage of the bill would impose new resource demands on both EPA and most of the states. Appropriations commensurate with the new authorities under this Title would be necessary to ensure successful implementation of the regulations.

The second comment concerns the division of regulatory labor between EPA and the states. Consistent with the Committee's bill, EPA supports authority for the states to implement certain provisions, including a prominent role in IST determinations and auditing/inspections. This approach would leverage long established EPA-state relationships under the drinking water and wastewater programs, as well as the states' expertise and familiarity with individual water facilities.

CONCLUSION

Over the past several years, we have made progress in ensuring the security of our nation's drinking water and wastewater systems. We have produced a broad array of tools and assistance that the Water Sector is using to assess its vulnerabilities, reduce risk, and prepare for emergencies, including chemical theft and release. In developing these tools, we have worked effectively with our partners within the sector, and also reached out to build new relationships beyond the sector, to ensure that water utilities can be prepared to prevent, detect, respond and recover from intentional incidents and natural disasters.

With respect to security at water sector facilities, we look forward to continuing to work with members of the Committee on legislation that ensures the security of drinking water and wastewater facilities while supporting the critical mission of these facilities for public health protection.

Thank you again for the opportunity to testify about our role in water security. I would be happy to answer any questions you may have.