

**EMERGENCY RESPONSE IN THE MARCELLUS
SHALE REGION**

FIELD HEARING
OF THE
**COMMITTEE ON HEALTH, EDUCATION,
LABOR, AND PENSIONS**
UNITED STATES SENATE
ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

ON

EXAMINING THE EMERGENCY RESPONSE IN THE MARCELLUS SHALE
REGION

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JULY 26, 2010 (Pittsburgh, PA)
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EMERGENCY RESPONSE IN THE MARCELLUS SHALE REGION

MONDAY, JULY 26, 2010

U.S. SENATE,
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,
Pittsburgh, PA.

The committee met, pursuant to notice, at 9:28 a.m. in Courtroom 6A, Courthouse for the U.S. District Court, Western District of Pennsylvania, 3110 U.S. Courthouse, Hon. Robert P. Casey, Jr., presiding.

Present: Senator Casey.

OPENING STATEMENT OF SENATOR CASEY

Senator CASEY. Thank you very much. The U.S. Senate Committee on Health, Education, Labor, and Pensions will come to order.

We'll start our hearing this morning with a statement by me, and then we'll get into the testimony from our witnesses. Then, of course, I'll ask some questions.

I'm grateful for this opportunity to come to Pittsburgh to talk about emergency response in the Marcellus Shale region. We have a lot to talk about and I know only limited time. I start this morning with a reflection about our Commonwealth.

The reason we're here this morning is because we love our Commonwealth, and we want to make sure that when a new opportunity arises, whether it's a new opportunity to create jobs and to build a stronger economy or other opportunities, that we take steps to get it right.

In Pennsylvania today, we know we have, like so many States in this country, a tremendous economic and jobs challenge. We have more than 591,000 people out of work. We're in the midst, even though we're recovering—I believe we've recovered a great deal in terms of our economic strength—but despite that, we are still in the midst of a difficult time period for our workers and our families in so many communities. We're concerned about that, as we always are in Pennsylvania. That's always one of our most difficult challenges.

We're also concerned about health and safety. When it comes to an issue like drilling, whether its gas drilling, generally, and in particular drilling that relates to the Marcellus Shale, we're concerned about health and safety.

Finally, we're concerned about our environment. This is an issue and this is a challenge that goes back to the beginning of the founding of our Commonwealth. We know, for example, that a number of years ago, we had a new Constitutional provision in the Pennsylvania Constitution, and though we gather today in a Federal building and we're talking about Federal legislation and I'm a Representative of the Federal Government, I've always believed in Pennsylvania's Constitutional provision, Article I, Section 27,

“People shall have a right to clean air, pure water and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.”

I've always believed that that Constitutional provision is one of the best recitations and the best summaries of what our challenge is as it relates to the environment in Pennsylvania, our quality of life now and into the future. And that idea that we are a trustee, we don't just get to do whatever we want in our time, in our generation, that we are, in fact, a trustee, I've always believed that that principle is central to who we are as a Commonwealth.

Often we got it right in our history. Sometimes we got it wrong. We have to make sure that when it comes to the Marcellus Shale drilling or any extraction of a natural resource, that we get it right. Part of getting this right is not just the debate about the environment and the drilling that is taking place and will continue to take place. Part of getting this right is having in place rules and procedures for emergency response that make sure that we protect the workers, that we protect the communities, and that we also protect the environment and quality of life.

We can't do that very well if we simply respond to an emergency after the fact, if we don't have procedures in place and rules in place. We saw in the last couple of weeks and months examples of situations in Pennsylvania, whether it's a blowout in Clearfield County or whether it's an actual explosion in West Virginia or whether it's the tragedy of just the other day in Indiana Township, all different circumstances I realize, but all have a common thread that sometimes we don't have enough procedures in place to protect people's lives and to protect the community.

Emergency response procedures, I believe, are needed to be strengthened, and new rules should be in place. One of the ways to do that is to enact legislation. I've introduced or will be introducing, I should say, and I've already made public a discussion draft of the FASTER Act of 2010, the Faster Action Safety Team Emergency Response Act of 2010. Here's what it does, and I'll just give a broad overview and summary.

It provides the Occupational Safety and Health Administration with the ability to draft regulations to enhance emergency response procedures at oil and gas wells—that's all oil and gas wells, not just Marcellus Shale—for example, having an employee knowledgeable in responding to emergency situations present at the well at all times, at all times, during the exploration or drilling phase.

Second, make available a certified response team within 1 hour of ground travel time. We're seeing over and over again the time interval between something happening and a response that's appropriate and necessary; requirements to contact local first responders within 15 minutes of the commencement of an emergency situation; a requirement that contact is made with the Occupational Safety and Health Administration within 1 hour; contact the National Response Center within 1 hour; provide communication technology at the well site; provide annual training to local first responders; and, finally, file an annual report with OSHA that names the certified response team assigned to each well of the operator.

We have an opportunity to take steps to get this right as it relates to emergency response, and today we're going to explore a number of ways to do just that.

Let me introduce our witnesses ever so briefly. I won't provide full biographies in the interest of time, but I do want to make sure our witnesses were introduced first. Then I'll go from left to right and introduce them for their testimony.

Our first witness is Robert French. Mr. French is the director of the Pennsylvania Emergency Management Agency. He was appointed to this position in 2007 by Governor Rendell. Prior to joining PEMA, he was the Deputy Adjutant General of Pennsylvania, which he assumed in 2004.

The second witness is Anthony Iannacchione, associate professor and director of the Mining Engineering Program at the University of Pittsburgh. From 1975 until 2008, he served in multiple positions with the U.S. Government that dealt directly with mining research. He holds a Bachelor of Science degree from California State University, also an M.S. in Earth Planetary Science from the University of Pittsburgh, and two more University of Pittsburgh degrees, M.S. in civil and environmental engineering, and a Ph.D. in civil and environmental engineering as well.

Our third witness is Nicholas DeIullis, president and chief operating officer of CNX Gas Corporation, and executive vice-president of CONSOL, CONSOL Energy. He has been with CONSOL for—I don't know how many years.

Mr. DEIULLIS. Twenty.

Senator CASEY. Twenty. There's a blank in my notes. He doesn't look the part, but that's OK. He's hiding his age well. While working at CONSOL, he obtained his Master's degree in Business Administration and a law degree from Duquesne University. He's past director of the Independent Petroleum Association of America.

The fourth witness is June Chappel. June is a longtime resident of Washington County, Hopewell Township. Recently the land neighboring next to June was purchased by a gas company. June will provide firsthand experience on living near a gas well site.

June, thank you for being here.

Finally, our last witness is Ralph Tijerina, chairman of the Safety Committee under the Pennsylvania Independent Oil and Gas Association and the Health, Safety and Environmental director at Range Resources in Canonsburg, Washington County.

I guess we'll go left to right. Mr. French, you can start. We're trying to keep everyone to 5 minutes, if we can. Then I'll have some questions. But if you go over 5 minutes, there's really nothing I can

do about that other than gavel you down. Gavel is just one strategy I have in place. Thank you very much.

STATEMENT OF ROBERT P. FRENCH, DIRECTOR, PENNSYLVANIA EMERGENCY MANAGEMENT ADMINISTRATION, HARRISBURG, PA

Mr. FRENCH. Good morning, Senator Casey. Thank you for the opportunity to be with you today for the hearing. First and foremost, we cannot do what we do to protect our citizens without a whole host of individual organizations, Government and private industry working together. So on behalf of the emergency management community and our first responders across the State, I want to thank you for your continued support toward all of the emergency management actions that we must take putting public safety first.

Also, I'd be remiss if I didn't commend all of our first responders who from day to day, most volunteers, are training to prepare for the event of any type of all hazards emergency that they are confronted with. They are truly a professional force even though almost totally voluntary.

As you know, since 2008, Marcellus Shale drilling activity in the Commonwealth has increased significantly, and projections are they will be continued and there will be dramatic growth of the industry for the coming years. There are substantial benefits of the production of natural gas; however, Marcellus Shale for us as emergency management provides some inherent risks that we must be prepared for in the event of any kind of incident that takes place.

As you have just mentioned, there have been some recent examples that we can look to both in Clearfield County and also in Susquehanna County that we have had to respond to when called. The role of the Pennsylvania Emergency Management Agency is to coordinate State agency response and to support county and local government in the areas of disaster mitigation and preparedness, planning and response, as well as recovery from any mandated natural disaster.

Regarding our public safety role as it relates to Marcellus Shale, I'll discuss what we have done to date and things we're planning to do to continue to improve our readiness levels in the future. I'd also like to take just a moment to make a comment about the proposed legislation that you've just referenced.

What have we done to date? Well, one of the frequent questions that I am asked, Senator, is what does PEMA do when there are no emergencies or disasters each day? The real question emanates out of seeing that response capability that most people think of us as giving, but as you know and the committee knows, we really have four different roles that we fill, one of trying to prevent and to protect, to be able to respond as most think of the emergency responders' roles, and then to help with recovery.

One of our agency's primary functions is to work with county and local emergency managers to assure that throughout the Commonwealth, there's a state of readiness to respond to any type of disaster. In emergency management, we call it an all hazard preparation.

At PEMA we're pleased that we have been recognized over the past few years by the Federal Emergency Management Agency and by the Emergency Management Accreditation Program to demonstrate readiness levels being at a high level in the Commonwealth.

Based upon the training, the accreditation, it's important to us to be able to prepare first so that we are able to respond. In regard to Marcellus Shale, we've done a number of things to prepare, such as training our local county emergency management agencies, training our State agency representatives, and working with our private industry partners to ensure that our first responders have an understanding of what they could be confronted with when coming onto a Marcellus Shale site.

It's been important for such things like 911 centers to actually have specific locations so that in the least amount of time first responders can get to the affected site. So between 911, between the training that goes on at all levels, we have been working diligently since 2008 really to improve the understanding and the readiness to respond to a Marcellus Shale incident.

One of the things that we are doing in the future is we are now in the process of partnering with the industry in the safety side of the house to ensure that when first responders need to respond, that they have a better understanding of what they will be confronted with.

We will begin in September to offer training in concert with FEMA and a safety committee from the industry so that we are better prepared, and we'll continue to improve that preparedness as we go on.

As far as the future goes, we will continue to work with the training aspect to help further develop the best techniques for response. We'll continue to work with the safety coalition that has already been doing some terrific familiarization training, and we will also be working with providing some training by our own representatives from the office of State Fire Commissioner.

In regard to the training and the preparation and the response, I think, as we've noted, for the last couple of incidents that have taken place, Senator, there has been a very capable response by the first responders at both Clearfield and at Susquehanna. All of us though recognize that there's more that we can do to better train and better be prepared, and we will continue to do that.

Relative to the FASTER Act that you had mentioned, sir, we all recognize that we are never at a point where we're totally ready for every hazard that might come our way, and we will look forward to working with you and your staff to move forward with any legislation that you've outlined here in the FASTER Act.

We know that one of the keys for us for response is to make sure that we are getting notified immediately when there are incidents taking place as well. We learned through our After Action Review at Clearfield County, for example, that we needed to have a quicker notification in order to be able to provide a quicker response, and we have already begun to work between the Department of Environmental Protection and ourselves with the industry representatives to ensure that there is immediate notification when we do have an incident at a site.

I think last Friday here in Allegheny County, that certainly showed that the changes were there because we did get immediate notification.

So, sir, whatever we can do to work with you and your staff on the legislation, we'll be glad to do. On behalf of Governor Rendell and the 12 million Pennsylvanians that we serve, I want to thank you again for your work and your commitment to helping to make sure our citizens are being taken care of with adequate training for our first responders.

[The prepared statement of Mr. French follows:]

PREPARED STATEMENT OF ROBERT P. FRENCH

Senator Casey and members of the Senate Health, Education, Labor, and Pensions Committee, I thank you for the opportunity to appear before you today to discuss the Commonwealth's work relating to emergency planning and preparedness for Marcellus Shale drilling. First and foremost, we can not provide the support our citizens deserve by ourselves. On behalf of our emergency management community and first responders across the State, I want to thank you for your continued interest and support of our public safety mission.

As you know, since 2008 the Marcellus Shale drilling activity in the Commonwealth has increased significantly. Projections are that there will be continued, dramatic growth of the Marcellus Shale industry in the coming years. There are substantial benefits of natural gas production for our Commonwealth and its citizens. However, Marcellus Shale drilling is an industry that does have inherent risks as evidenced by the recent blowout at a well in Lawrence Township, Clearfield County and a fire at a separator tank in Susquehanna County.

The role of the Pennsylvania Emergency Management Agency (PEMA) is to coordinate State agency response and to support county and local governments in the areas of disaster mitigation and preparedness, planning, and response to and recovery from man-made or natural disasters. Regarding our public safety role as it relates to Marcellus Shale activity, I will discuss what PEMA has done to date and our future plans. In addition, I will address a couple of matters regarding the Faster Action Safety Team Emergency Response (FASTER) Act of 2010 that you are proposing.

PEMA'S ENGAGEMENT AND PREPAREDNESS TO DATE

One of the frequent questions I am asked is, "What does PEMA do when there are no emergencies or disasters." This question emanates from the public perception that PEMA's primary function is that of a response agency. As those of you on this committee know, that is not the case. It is just one of the four areas we address: prevention, protection, response, and recovery. One of our agency's primary functions is to work with county and local emergency managers to assure that throughout the Commonwealth there is a state of readiness to respond to any type of emergency or disaster. In emergency management terms—it is an "all hazards" approach to emergency management.

At PEMA, we are pleased that we have been recognized over the past 2 years by the Federal Emergency Management Agency (FEMA) Region III, as a leader in emergency management practices and community education. In addition, the Commonwealth of Pennsylvania recently underwent the 5-year re-accreditation assessment by the Emergency Management Accreditation Program (EMAP) Commission. Based on reviews of its plans, procedures, and documentation, Pennsylvania was the 5th State to earn EMAP accreditation in 2003, and today, is only one of 23 States and 4 jurisdictions to hold accreditation for its emergency management program capability. Just last month EMAP notified us that they approved Pennsylvania's re-certification for an additional 5 years. I bring the EMAP re-certification to the committee's attention because it was not a 1-day snapshot of what we do, but an exhaustive review regarding how PEMA interacts on a regular basis with the Federal Government, other State agencies, counties, and municipalities.

While PEMA's overarching approach to emergency management is an all hazards approach, we also focus on and address specific challenges that may arise in the Commonwealth. For example, with regards to the Marcellus Shale industry and emergency preparedness, PEMA has been engaged in the matter as far back as 2008. PEMA's Central, Eastern, and Western Area Offices have been involved in various activities regarding the process and assessing emergency management con-

cerns. We have also been involved in tabletop exercises and roundtable meetings related to Marcellus Shale matters. County emergency management personnel and industry members have participated in those activities. PEMA's Bureau of 9-1-1 has been engaged in meetings regarding county 9-1-1 centers and addressing information on Marcellus Shale well sites. In addition, PEMA's most recent, regional Quarterly Training sessions for County Emergency Management Coordinators—which was held in two of the area regions before the Clearfield County blowout—included a presentation from the Lycoming County Natural Gas Task Force on Marcellus Shale matters. The purpose of all these activities is to assist our State, county, and local partners in their public safety planning and preparedness for Marcellus Shale-related emergencies that might arise. In short—PEMA has been engaged in Marcellus Shale matters and expects to be further engaged as the industry continues to grow in Pennsylvania.

PEMA also is part of a Marcellus Shale working group comprised of a number of State agencies that include: the Pennsylvania Department of Environmental Protection (DEP), the Pennsylvania Department of Labor & Industry (L&I), the Pennsylvania Department of Transportation, the Pennsylvania State Police, and the Pennsylvania Department of Conservation and Natural Resources. The purpose of the working group is to meet on a regular basis and share information that relates to Marcellus Shale industry matters. With regards to other State agencies, the Office of the State Fire Commissioner is working with industry safety personnel in developing first responders' familiarization and training.

PEMA'S COURSE OF ACTION MOVING FORWARD

The Clearfield County blowout was the most significant Marcellus Shale emergency management incident to date in Pennsylvania. This incident could have been much worse. With any disaster or emergency in which the SEOC is activated, PEMA always does an after action review of the situation. We do this in order to assess what was done well and to identify areas that may need change or future attention. While we can be pleased that the incident was handled appropriately by State, county, local emergency management personnel and our first responders, there clearly are matters that need to be addressed.

First, operators of natural gas wells must call the county 9-1-1 immediately when there is an emergency situation. It is unacceptable that the operator of the well did not notify Clearfield County 9-1-1 until almost 3 to 4 hours after the incident began. We are working with DEP, and offer to work directly with the industry, to ensure that operators comply with what all of us are taught: dial 9-1-1 when there is an emergency situation.

Second, PEMA will ask the Marcellus Shale Coalition Safety Committee to continue to partner with us in our outreach to county and local emergency management personnel and our first responders. Beyond that, our hope is that, as DEP Secretary Hanger has said, the industry have a culture of "safety first" to minimize the number of incidents that may need an emergency response.

Third, prior to the Clearfield County incident, PEMA had discussed holding a training session involving representatives from the Marcellus Shale Coalition and county emergency management coordinators. The purpose of the training would be to familiarize the coordinators with matters related to the Marcellus Shale industry. Therefore, at this year's State emergency management conference, we will have a session dedicated to Marcellus Shale gas drilling and emergency management issues.

Fourth, PEMA will work with the Office of the State Fire Commissioner (OSFC) in marketing OSFC's Marcellus Shale training program for first responders. In March of this year, Fire Commissioner Ed Mann was attending a Marcellus Gas Training session hosted by the Lycoming County Emergency Management Office and the Marcellus Shale Coalition Safety Committee. Fire Commissioner Mann was approached by a representative from the Marcellus Shale Coalition Safety Committee about OSFC collaborating with the gas industry to develop training programs for first responders. Fire Commissioner Mann was very interested in creating a partnership with the gas industry on the matter. However, due to budget issues that were affecting State agencies, Fire Commissioner Mann told the gas industry that they would have to be willing to offset the cost associated with the development of the curriculum and the delivery of the training. The Marcellus Shale Coalition Safety Committee has agreed to provide funding for the training program. As it stands now, the program is being developed and the individuals who will teach the course will begin their training on August 10. Once those individuals have completed their training, OSFC is scheduled in September to offer the initial classes to first responders who wish to receive training program.

FASTER ACT OF 2010

I want to touch on a couple issues that relate to inspections and safety issues regarding Marcellus Shale gas wells. First, as you know, DEP is the lead agency in the Commonwealth regarding natural gas well drilling. On its Web site, DEP has excellent material about Marcellus Shale drilling. In particular, there is a Marcellus Shale Fact Sheet that discusses many of the complex issues regarding Marcellus Shale drilling in very understandable language. DEP and PEMA worked closely together on the Clearfield County incident and we will continue to try and get the industry to have improved lines of communication with State, county and local agencies for any future emergencies. Regarding the Faster Act, I would welcome the opportunity to work with you and your staff to meet one of the primary goals of your legislation—to ensure the citizens of the Commonwealth are protected from any emergency situations that arise in relation to Marcellus Shale drilling.

Second, it is my understanding that DEP typically inspects a Marcellus Shale well site two to four times for environmental and drilling standards when a well is being developed. However, neither DEP nor L&I have jurisdiction for worker safety issues. It is my understanding that the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) has jurisdiction over these worker safety matters. I raise this issue because while it is critically important that emergency response systems are in place in the event of an accident, preventative actions are equally as important. You may want to have your staff discuss the Faster Act with DEP and L&I to get their thoughts on the legislation as it relates to worker safety issues and OSHA oversight for Marcellus well drilling sites.

On behalf of Governor Rendell and the 12 million Pennsylvanians we serve, I again want to thank you Senator Casey and the members of the Senate Health, Education, Labor, and Pensions Committee for your continued support of PEMA and our partners in public safety in Pennsylvania and across the Nation. I would be happy to answer any questions you may have.

Mr. CASEY. Thank you very much.
Professor Iannacchione.

STATEMENT OF ANTHONY IANNACCHIONE, ASSOCIATE PROFESSOR AND DIRECTOR OF THE MINE ENGINEERING PROGRAM, UNIVERSITY OF PITTSBURGH, PITTSBURGH, PA

Mr. IANNACCHIONE. Thank you, Senator, for asking me to participate in this field hearing. I hope that I can add something of value to this important discussion.

Perhaps my thoughts can be summarized by saying implementing risk management protocols for the oil and gas industry should have a positive impact in reducing health, safety and environmental issues and should be encouraged.

The United States is in the midst of developing one of its major unconventional gas resources, a major part of which is the Marcellus Shale contained within our region.

It would be hard not to get excited about the prospects of developing a homegrown energy source that is located, produced and distributed completely inside the United States. It's also heartening to know that good paying jobs are being created and revenues from leases and taxes are refueling the citizens and Government alike.

Through June 2010, the industry has drilled over 1,600 Marcellus Shale wells in Pennsylvania. I think it's fair to characterize the unconventional gas industry in this region as largely growing. Marcellus Shale gas wells are very different from more conventional wells. They're deeper. They utilize huge hydraulic fracturing systems and employ sophisticated directional drilling technologies.

Recently the safeguards needed to conduct these complex work practices have become a source of discussion, and calls for more standards and regulations are being suggested. The overriding

question is this: Can our region's unconventional gas and shale resources be developed in a safe and environmentally acceptable fashion?

The answers are difficult because risk associated with developing these reserves have not adequately been fully identified. Risk management methods have been successfully utilized by a number of different industrial, financial and governmental organizations but have not yet seen widespread use in this industry.

Let's look at the coal mine industry as an example. In 1910, when Congress created the U.S. Bureau of Mines, thousands of miners were dying every year in mine accidents. Over the last 100 years, regulations have been periodically improved upon, typically in response to major disasters.

As a result of these regulations, new technologies have made their way into the workplace. In 1975, when I began my career, 155 miners were fatally injured in coal mining accidents. Last year the total number was 18. These regulations have been prescriptive in nature and often define best practices necessary to mitigate health and safety injuries.

The mining industry is arguably one of the most regulated industries in the United States. Unfortunately, even in the midst of massive regulations and falling injury rates, the mining industry still struggles with periodic disasters. Sago, Crandall Canyon and now Big Branch cast a cloud over the effectiveness of Government's attempts to prescribe every safe action and every best practice.

At some of the mines with the worst safety records, the operations focus primarily on minimal compliance with the law. They are in practice reacting to safety issues that have the potential to be found by mine inspectors. The necessary effort to thoroughly understand the hazards in their environments and to develop prevention controls and recovery measures that will mitigate inherent risk are left to the better operators.

One has to ask the question: Why didn't any of the new standards enacted after the Sago disaster prevent a massive loss of life at the Upper Big Branch Mine?

My fear is the prescriptive regulations lack the clear mandate to encourage operators to become more proactive, to work on leading practice, and go beyond the minimum standards identified in the regulations. As a result, operators who are only used to reacting to the threat of citations are ill-prepared to develop more proactive approaches.

My experience suggests that the best way to eliminate major hazards from the workplace is to perform rigorous risk management. This methodology has the advantage of encouraging the operator to consider and plan for unwanted events. It also produces new ideas to help to drive innovation in workplace safety and focus the operations to document its findings. These reports can be reviewed and used to develop leading safety practices.

Adequate risk management plans also identify how the barriers in prevention controls put into practice are audited and who is responsible for making sure they are maintained. This is the way many of the best and safest companies already conduct their affairs. It is equally true that the unsafe companies are least likely to embrace these practices.

So far, by facilitating operations to continuously manage their risk to a higher standard, we are encouraging proactive behavior. This would eliminate the need to have government through highly specific standards and regulations recognize every potential hazard and identify every appropriate response.

The legacy of mining has the potential to help us develop an alternate strategy for dealing with the risk presented by Marcellus Shale drilling. After all, everybody is struggling with the same issue: What are the risks and can we mitigate them to acceptable levels? Thank you, Senator.

[The prepared statement of Mr. Iannacchione follows:]

PREPARED STATEMENT OF ANTHONY IANNACCHIONE *

SUMMARY

The United States is in the midst of developing one of its major unconventional gas resources. In a report by the Congressional Research Service dated September 9, 2009, unconventional shale accounts for one-third of the U.S. gas resource base, roughly 616 tcf. A major part of this resource is contained within the Marcellus Shale which underlies parts of Pennsylvania, New York, New Jersey, West Virginia, Maryland, and Ohio. Estimates of gas potential from the Marcellus Shale are significant, i.e. output from the Marcellus Shale is projected to fill the gas needs of the United States for 15 years. It would be hard not to get excited about the prospects of developing a “home-grown” energy source that is located, produced and distributed completely inside the United States. It’s also heartening to know that good paying jobs are being created and revenues from leases and taxes are refueling the accounts of citizens and governments alike.

SO HOW BIG IS THIS INDUSTRY?

John Harper from the Pennsylvania Geological Survey, part of the Department of Conservation and Natural Resources, reports that over 3,700 Marcellus Shale wells have been permitted since the Pennsylvania Department of Environmental Protection (PA DEP) started keeping count in 2008. The Pennsylvania Geological Survey also claims that approximately 450 Marcellus Shale wells have been formally completed, most within the last 2 years. Through June 2010, the industry has drilled a total of 1,681 Marcellus Shale wells. Drill sites dot many hillsides and hilltops in western Pennsylvania. It therefore seems reasonable to characterize the Marcellus gas production industry in this region as large, and growing.

WHAT IS ALL THE FUSS ABOUT DRILLING INTO THE MARCELLUS SHALE?

Oil and gas drilling have been occurring in Pennsylvania since the famous Drake Well of 1859. But these Marcellus Shale gas wells are very different from more conventional oil and gas wells found throughout the Commonwealth. One of the big differences is the scale and complexity of these operations. Developing a Marcellus Shale drill site, most of which are in sparsely populated areas, is a major undertaking. A high percentage of the drillholes use hydraulic fracturing techniques, known as fracking, to enhance the shale reservoir’s ability to release the gas. This type of drilling requires huge pads, most as large as a football field. Periodically, large trucks will fill these pads, side-by-side, delivering the fracking fluids, under high pressure, into the otherwise tight fractures of the shale. This causes the fractures to extend and open, ever so slightly. Once the fracking fluids are removed from the formation, these enhanced fracture pathways facilitate the movement of gas from the shale and into the production well. These drill pads also need a place to store up to several million gallons of frac water. The safe guards needed to conduct these complex work practices in a responsible fashion have become a source of discussion for more standards and regulations.

*It is this author’s opinion that implementing risk management protocols for the oil and gas industry could have a positive impact in reducing the health, safety and environmental issues and should be considered.

HOW IS THE INDUSTRY CURRENTLY REGULATED?

The drilling of oil and gas wells in Pennsylvania is regulated by several chapters of the Pennsylvania Code and various State acts. Oil and gas wells are permitted and inspected by the PA DEP's Bureau of Oil and Gas Management. In recent weeks, Secretary Hanger of the PA DEP, has introduced a number of new standards and is in the process of expanding the State's inspection capabilities to ensure regulatory compliance. At this point in time, the PA DEP seems well positioned to take on this responsibility. It is also clear that there doesn't appear to be a compelling need for the Federal Government to assume this role.

HOW ARE WE DECIDING WHAT TO DO ABOUT MARCELLUS SHALE DRILLING?

Most large land owners have been approached with offers to lease the land for gas drilling. A recent article by Bill O'Driscoll (July 8, 2010) cited the current deliberations the Carnegie Museum of Natural History is having concerning a potential lease agreement on its Powder Mill Reserve in Westmoreland County. In another high profile case, a company has proposed drilling within the city of Pittsburgh. The overriding question—can this resource be developed in a safe and environmentally acceptable fashion? The answers are difficult because risks associated with developing the Marcellus Shale gas reserves have not yet been fully identified.

WHY IS IT IMPORTANT TO ASSESS RISK?

This question can be analyzed by examining our experience with extracting another natural resource—coal. In 1910 when Congress created the U.S. Bureau of Mines, thousands of miners were dying every year in mining accidents. Over the years standards and regulations have been continuously developed and improved upon and new technologies have made their way into the work place. By 1975, when I began my career, 155 miners were fatally injured in mining accidents. Last year the number was 18. The bottom line, both fatal and non-fatal injury rates have continuously dropped as the industry implemented new standards and regulations called for by periodic State and Federal mining health and safety legislation. These standards and regulations have been prescriptive in nature and often defined as the best practices necessary to mitigate health and safety injuries. The mining industry is arguably one of the most regulated industries in the United States. Unfortunately, even in the midst of massive regulations and falling injury rates, this industry still struggles with periodic disasters. Sago, Crandall Canyon and now Upper Big Branch have cast a cloud over the effectiveness of the Government's attempt to prescribe every safe action and every best practice. *At some of the worst run mining operations, the operations focus solely on complying with the law.* They are in practice, reacting to safety issues that have the potential to be found by mine inspectors. The necessary efforts to thoroughly understand the hazards in their environment and to develop controls and recovery measures that will mitigate the inherent risks in extracting minerals from the earth are often lacking.

One has to ask the question, why didn't any of the new standards, enacted after the Sago disaster, prevent the massive loss of life at the Upper Big Branch Mine? My fear is that prescriptive regulations lack a clear mandate to encourage operators to become more proactive, to work on leading practices, to go beyond the minimum standards identified in the regulations. As a result, operators who are used to reacting to the threat of citations are ill-prepared to develop more proactive approaches. My experience suggests that the best way to eliminate major hazards from the work place is to perform adequate risk assessment/risk management processes.

SHOULD WE EXPECT MAJOR HAZARDS IN MARCELLUS SHALE DRILLING OPERATIONS?

Recently several high profile accidents have occurred at drilling sites in the northern Appalachian region. In one West Virginia accident, several workers were seriously injured when high pressure gas was not adequately controlled and an ignition occurred and a fire erupted. The ignition of explosive gas from a high pressure drillhole is an extremely dangerous occurrence that requires specialized training and equipment to safely mitigate. Other major hazards are associated with the special Marcellus Shale work processes discussed earlier. Certainly, major hazards are present.

HOW SHOULD RISKS BE MANAGED?

Risks are best managed when the operator identifies any and all potential hazards associated with a particular work process. Once these hazards are identified, risk are evaluated based on their likelihood of occurrence and consequences. Hazards with the highest risk are identified and can become the operator's primary

focus. Management is then challenged to identify an adequate set of barriers and/or prevention controls that can help to significantly reduce risks. All risk management plans must also consider the consequences to the operation if all the prevention controls fail to work and the hazard is released into the environment. It is clear that well thought out emergency response plans are needed.

The risk management process has the advantage of encouraging the operator to consider and plan for the kind of unwanted events that we all hope don't occur at our work sites. It also produces new ideas that help to drive innovation in the work place and forces the operation to document its findings. These reports can be easily reviewed by knowledgeable persons. A good risk management plan also identifies how the barriers and controls put into practice are audited and who is responsible for making sure they are maintained. This is the way many of the best and safest companies already conduct their affairs and it is equally true that the unsafe companies are least likely to embrace these practices. So by encouraging operations to manage their risk to a known standard, we are encouraging proactive behavior (something good companies do already) and discouraging the reactive approaches of the "bad" companies. This would eliminate the need to have government, through standards and regulations, recognize every potential hazard in the workplace and identify every appropriate response to these hazards.

The legacy of mining has the potential to help us develop an alternate strategy for dealing with the risk presented by Marcellus Shale drilling. After all, everyone is struggling with the same issue—What are the risks and can they be mitigated to acceptable levels?

Senator CASEY. Thank you very much.
Mr. DeIullis.

STATEMENT OF NICHOLAS DEIULLIS, PRESIDENT AND CHIEF OPERATING OFFICER, CNX GAS CORPORATION, PITTSBURGH, PA

Mr. DEIULLIS. Good morning. First, I'd like to thank the Senator and his team for giving CONSOL Energy the opportunity to testify this morning.

We've got an issue now, through the prior years of collaborating on a number of issues across the manner of space, I think. They all go back to the deep affection we all share for the Commonwealth and for southwest Pennsylvania. So thank you.

With regard to CONSOL Energy, I'd first like to spend a quick minute talking about our perspective on emergency response and why that might be unique within the industry. I think the uniqueness of that view comes down to three things.

First is our legacy. We've been around for almost 150 years with regard to this region, and corporately at least, we're one of the founding fathers. Through 150 years, we've learned oftentimes in lay industries what to do and also what not to do. Sometimes it's just as important in life to know what not to do as it is what to do.

The second reason our perspective may be unique is that when you look at the magnitude of what we're doing, no one extracts more coal east of the Mississippi in the United States than CONSOL Energy. No one produces more natural gas in the Appalachian basin which, of course, includes the Marcellus Shale, than CONSOL Energy. So the scope of what we're doing, we're a major player in Marcellus in that respect.

I think the most important thing that makes our perspective unique is that what we do we do on an integrated basis. We're the only company, at least to my knowledge, that operates both coal mines and Marcellus rights, shallow wells, gas processing facilities, coal preparation plants and gathering lines.

In looking at that across an integrated fashion, we see how things are inter-related with regard to issues like emergency response, and they are inter-related. So with that perspective, we're out front and some of the issues remain unique.

What do we see with regard to emergency response? I think you can really categorize it into two main groups. The first are what I'll call philosophical, questions or issues that we could reach consensus on sooner rather than later before we get to the specifics of emergency response. The most important one there is: Is safety the top value with regards to the actual gas and Marcellus industries?

At CONSOL Energy, safety is our top value, and I think it's safe to say it's our top priority. We're careful to say value because priorities can change over time. Our values won't change with regard to changing conditions. Safety is always going to be our top value, no matter what the environment is. When you look at that, it's easy perhaps to say that, but you need to look at the actions to make sure they're consistent with regard to what you're speaking.

If you look at the amount of time their operations need to spend at CONSOL Energy on safety and compliance, it's an order of magnitude more than we spend on production and costs. When you look at tracking accidents, every single incident that occurs with regard to CONSOL Energy's use of inspection where absolutely zero accidents is the accepted benchmark for performance, and there's a fall line investigation, whether it's a cut pinky finger. The operations team is immediately notified with regard to email notification, and a follow-up investigation occurs within 24 hours in the vast majority of cases.

Look at contractors. We have a lot of contractors in the Marcellus industry, which affects emergency response. We view contractors within our zone of accountability. Indeed perhaps we could look the other way with regard to contractors and service providers and just focus on our employees, but then we look at risk analysis and risk assessment. The contractor is in the same zone of risk and accountability as our employers are. So all of those things in terms of actions should help culminate in the view that safety is a top value within CONSOL Energy, but is that the case with regard to the entire industry? It needs to be. I'll also make the argument that the fact that we're the safest operator in the Marcellus, we haven't had a lost time accident within our employee base on our gas segment since 1994, and the fact that we're the most profitable gas producer in the United States, those two things are not coincidence. One goes with the other.

If you're safe, you're going to be profitable. So I can say we're in employee and safety compliance. I can make the same argument that that's the same as looking at efficiency and profitability. They go hand in hand.

Another philosophical point to consider, and it's very important to be focusing on emergency response and to do our homework up front, but we can't lose sight of emergency avoidance, and I look at that as being akin to something like fire safety.

This building has sprinkler systems, and everyone is trained on what to do in the event of a fire. But the real issue, of course, our ultimate goal, is to avoid fire to begin with. I think it's important to keep going back to that ultimate objective while looking at emer-

gency response to look at ways of avoiding the crisis of emergency all together, because, again, from our perspective, to operate within this industry without any accidents or any major crises or emergencies is not an unachievable goal. We've been doing it, in our case on the gas segments, since 1994.

The third philosophical point to consider is a lot of regulation, a lot of rules of the road and processes and procedures within the energy industry historically have focused on what I'll call stick of enforcement. If you can't or you won't comply with the rules of the road and standards that you accepted to operate within, here are the ramifications, and we need those. Certainly any industry with regard to a number of large players and various players would want to see those guidelines in place.

But we also need to focus with regard to emergency response on what I'll call the carrot of regulation and rules of the road. If a company is furthering the state-of-the-art and is furthering best in class, how do we reward those and incentivize these to continue doing so. So those are sort of the philosophical thoughts that are out there.

On the specifics, beyond philosophy, training is terribly important. It's not just training for employees. Training for first responders, as Mr. French brought up. You're also training the contractors. We need to see more of these jobs in this industry filled by people from this region, live within this region, that improves emergency response for the long-term, and are more familiar with the rules of the road and the lay of the land.

So, short term, sure, if those jobs aren't readily available locally, that's one thing. But longer term we need to get those posts slotted with local talent, homegrown development, no pun intended.

Then the last issue, of course, is probably the most important. Sounds basic, but communication is key. It's one thing to be able to have everybody on the same page at the time when a crisis occurs, from first responders to employees to contractors, but the last thing you want to see in a crisis is everybody spending valuable time when time is of the essence trying to get on the same page with the same sheet of music.

So, find ways to improve that communication at work. If I've got a drill rig operating in Greene County, all those municipalities know what the game plan is, where we are, and vice versa. So those are the thoughts we're proud to offer up this morning.

I want to again thank the Senator and his team for giving us the opportunity to speak. Thank you.

[The prepared statement of Mr. DeIullis follows:]

PREPARED STATEMENT OF NICHOLAS DEIULLIS

Good morning. I am Nick DeIullis, EVP & COO for CONSOL Energy, and I appreciate the opportunity to address this hearing on emergency response in the Marcellus Shale region. Special thanks to Senator Bob Casey for inviting CONSOL Energy to participate.

As the COO of one of the Nation's leading gas and coal producers, I witness, firsthand, the importance our company places on the safe and environmentally sound operation of all of our business units.

Those operations include 11 bituminous coal mining complexes in six States with coal reserves of 4.5 billion tons. We are also the leading Appalachian gas producer, with proved reserves of 2.9 trillion cubic feet.

At CONSOL Energy, I can say, with confidence, that our primary and significant emphasis remains the health and safety of each of our more than 8,500 employees, nationwide.

And our employees are responding. Throughout all of CONSOL, and across all business units and job duties, our corporate commitment to encourage employees to work safely on the job and off is paying dividends in very important ways.

Not only are we maintaining safe operations, but we are also being productive. Our value system leads to the belief that a safe operation is also a productive one.

That if you perform adequate risk analysis while designing and constructing the operations, add to it the proper equipment and training, then follow that up with attention to the human element by empowering employees and instilling into them that safety is a personal value, then our goal of eliminating all accidents and maintaining an Absolute ZERO mentality will be achieved and maintained.

We don't run away from our responsibility to operate our energy operations safely and in compliance with the regulations, we embrace it.

We continually reinforce to our employees, on a daily basis, of the need to be safe, both on the job and at home.

At CONSOL Energy, we earnestly believe that eliminating every injury or accident in the workplace is achievable. In fact, many of our operations have proven it, consistently.

Of special interest to this forum, our gas operations recently earned more than 4 million hours without a lost-time accident. They are also on target to achieving our company standard of Absolute ZERO, the elimination of all accidents and injuries on a consistent basis.

Closely behind safety and equally important is the issue of compliance with the regulations that monitor and govern our industries, whether on the gas side, or the coal side, or any of the non-extractive units within CONSOL.

This overall framework of adherence to safety and compliance animates everything that CONSOL Energy does at its gas and mining operations.

This broad-based and total commitment to safety and compliance means that CONSOL Energy would never jeopardize our employees or contractors by exposing them unnecessarily and carelessly to equipment or operations that are unsafe or harmful to their well being.

Among our employee population, you will find highly skilled engineers and specialists, alongside certified and trained EMTs, experts in safety and training, and knowledgeable and effective managers all collaborating to ensure the safe and efficient operation of our gas and coal sites.

Second, we provide extensive and on-going training for our employees to ensure they are performing their job duties safely and with strict adherence to best practices and applicable operational and environmental regulations.

This training helps to ensure that our employees will react swiftly and effectively to any incident that may occur at our gas drilling sites or any of our other operations, whether it be fire-fighting or blow-out prevention.

As a part of this effort, we instruct our operations managers and employees that the best remedy to any emergency situation is prevention. That with adequate and effective prevention planning, we can increase our chances of avoiding any emergency situation at our operations.

We also require that our contract drillers complete BOP, or Blow-Out Prevention Training before they are allowed to perform work at our gas sites.

In addition, CONSOL Energy maintains a centralized communications center that monitors all company operations and acts as an emergency response outlet to quickly alert corporate and local responders to any incident involving our active sites.

Such emergency prevention and preparedness has been a part of our corporate culture for decades, and is applied across all of our business units.

Finally, we expect the same dedication to safety and compliance from our vendors and contractors that we use to assist with everything from Marcellus Shale well drilling to long-wall coal mining to purchasing office supplies. If they do not adhere to the same standards for safety and compliance as our own employees do, they don't do work for CONSOL Energy.

Before any such outside contractor begins any activity on any CONSOL property, they must adhere to our standards and are required to complete a rigorous training and performance program.

It is understandable that given recent incidents at nearby Marcellus drilling sites, and against the backdrop of the BP oil spill in the Gulf, that greater attention has been focused on our industry and its operations.

However, we strongly believe that through the use of advanced drilling technologies and preventative and fail-safe systems currently being employed by CONSOL Energy will ensure that this valuable resource and the associated job

growth and positive economic impact can continue to move forward safely and without harm to humans or the environment.

Thank you.

Senator CASEY. Thank you very much.

Ms. Chappel, Good morning.

**STATEMENT OF JUNE CHAPPEL, LOCAL RESIDENT,
HOPEWELL TOWNSHIP, WASHINGTON COUNTY, PA**

Ms. CHAPPEL. My name is June Chappel. I live in Hopewell Township in Washington County located about 10 minutes north-east of Washington, PA. In 2007 there was 118 acres of property surrounding my home that was sold by a coal company to a gas drilling company. Seven Marcellus gas wells were drilled right next to my home, within 800 feet of my house.

A 15 million-gallon wastewater impoundment was placed approximately 200 feet directly behind my home. The waste water impoundment that smells like gasoline and kerosene when the wind blows across the impoundment blows right into my back yard. I tell people that the wastewater impoundment is bigger than a football field.

The location had been a mix of woods and field prior to the gas company's purchase of the land. The gas company had a logger come in and clear the woods around us.

When they drilled the wells, my house vibrated 24 hours a day, 7 days a week. It was pretty horrific. When the drilling was done, the gas company began fracing up the wells. This was a 9-day heart-pounding noise. That is what I called it. With all the compressors that were over there, it was constant, 24 hours a day for 9 days.

In early September 2009, when the gas company was done with the fracing, the flaring started. Close to the wastewater impoundment the gas company placed a large blue pipe that was used for the flaring after the wells were fraced approximately 500 feet from my from my home.

We had to go out at 4 a.m. to rescue my beagles due to the extreme noise and heat. We found my dogs out in their dog boxes cowering, very frightened. We put up with the noise for 3 days. After I returned from Wal-Mart one day—I had just had to get away from the noise—I found the local fire department at this site. The local fire department was not even our local fire department that should have been in my area. The fire department that would normally cover a fire in my area is West Middletown Volunteer Fire Department located about 8 minutes away.

The fire department on scene was Canton Township Volunteer Fire Department located about 20 minutes away. At the time I did not even think about why Canton was at the scene, not our fire department. The fire department had a truck down at the flares spraying the big blue pipe. I could see the liner of the wastewater impoundment with little fires across the top of the impoundment and around the corner of it. Each smaller fire was low to the ground right above the wastewater impoundment liner.

The extent of the fire on the liner was not truly realized until days after the gas company replaced a very large section of the liner that was burned in the fire, which can be seen in my photos.

The fire department with their one unit stayed there the remainder of the time during the flaring. But even with this presence, we felt very fearful for our lives.

The fire department was a local volunteer fire department, and we did not even know if they had proper training to deal with such a fire, let alone whatever chemicals that were in this impoundment. I was really scared.

My son and I went running down to this impoundment to see what was going on, and one of the guys with a white hat, I asked him, "What is going on?" He said, "Well, we're trying to cool down the big blue pipe." I thought I was going to have a heart attack right there.

Neither the fire department nor the drilling company ever came to our house to warn us of the fire. No evacuation was issued. I did turn this situation in to the DEP, but nobody believed me that there was a fire. The DEP was not aware that there was a fire. The gas company claimed there was never any danger and that there was not a fire, but my pictures speak otherwise.

Not until I showed the man from DEP my pictures did he believe me. A fire department was involved, and not even our fire department. We never saw a police presence, let alone OSHA, the DEP, or any other type of emergency personnel such as EMTs. Evidently, 911 was never called by the gas company to notify the fire department of the danger. If 911 had been called, the DEP would have been notified of the fires. As I mentioned, the DEP was not aware of the fire.

I had found out later from one of the workers that they were using a big 8-inch pipe on this flare opening all seven wells at once. I was told usually they use a 2-inch pipe. This could have ended in disaster. I was told by someone in the company that they're learning as they go, and my response to them was, "Unfortunately, at my expense."

It was really tremendous, this noise and heat from this thing. When it was lit, it sounded like a 747 was inside my home. We lost days of sleep. It is important to point out all of this was going on soon after.

Senator CASEY. It's OK.

Ms. CHAPPEL [continuing]. My husband, Dave, was diagnosed with cancer. Not only did my son and I have to deal with living through this, but we were also trying to attempt to support my husband through his illness. Through all of his illness, there was never any compassion from this company. We were never informed of anything going on around us.

We were never informed of the dangers. The only thing they ever offered us was to be displaced from our home and go to a motel during this fracing and flaring. All my husband wanted to do was live his final days in peace at our home.

By the third day of this flaring, I was about beside myself. I went down to their corporate office and tried to get this thing shut off. My husband asked me, "Where are you going?" I said, "Out." But he knew where I was going. At the corporate office I told them I was going to charge them by the hour for every hour of hell they're putting my family through.

This man I was talking to said he would be up to the house in an hour. I told him, "You just remember when you're on your way home, I have to live here."

When I arrived home, my husband asked me if I was nice, and I said, "Well, I tried to be." Within an hour of leaving the corporate office, the guy from the gas company arrived, and within 2 hours, the flaring had been shut off, and I was thrilled just to have normal sound and not have to have this horrific noise.

The one thing I found out later was how dangerous this was and the chemicals in the wastewater impoundment. The entire impoundment, the surface of the water and all could have caught on fire. The only protection I had was the local fire department hosing down the flaring pipe. After the fracing and still to this day, I have hissing and rattling sounds in my ears. It sounds like I'm in a pit of rattlesnakes. I told them the day I went to the corporate office that the noise was rattling my windows and my doors. Even though we did not have air conditioning, we had to keep our windows and doors shut. It was terrible.

Despite the fire and the melting of the impoundment liner, the gas company patched the burned sections. The wastewater impoundment and all the noxious smells remained in my back yard until late spring. A representative from the gas company came to my house and said they were finally going to get rid of the impoundment. I asked him why. He said, "Because it is the right thing to do."

He did not mention that I had hired an attorney and that it was too much bad publicity because I already made media. A couple times we've had numerous people come to my property to see the hell my family has been through.

This situation was only made worse by the fact that the gas company never contacted us warning us of flaring dangers that were involved. Once the situation became out of control, neither the gas company nor the fire department thought it was necessary to evacuate both my family and all the other families around us.

We even wondered if the fire department had any clue to truly know how dangerous this situation had become when dealing with the flare pipe, let alone the chemicals in the wastewater impoundment.

The good news about this is the wastewater impoundment is being filled in now, and it is bittersweet. On February 26, 2010 my husband, Dave, died, and I know he would be really proud of me. Thank you.

[The prepared statement of Ms. Chappel follows:]

PREPARED STATEMENT OF JUNE CHAPPEL

My name is June Chappel. I live in Hopewell Township in Washington County, Pennsylvania, located about 10 minutes northeast of Washington, PA. In 2007, the 118 acres of property surrounding my home was sold by a coal company to a gas drilling company. Seven horizontal gas wells were drilled to the right of my home within 800 feet from my house. A 15 million gallon wastewater impoundment was placed approximately 200 feet directly behind my house.

The wastewater impoundment smells like gasoline and kerosene, and the wind blows across the impoundment right into my back yard. I tell people that the wastewater impoundment is bigger than a football field. The location had been a mix of woods and field prior to the gas company's purchase of the land. The gas company had a logger come in and clear the woods around us.

When they drilled the wells, my house vibrated 24 hours a day 7 days a week, it was pretty horrific. When the drilling was done, the gas company began the fracing of the wells. This was 9 days of heart pounding noise. That is what I called it, with all the compressors that were over there, it was constant 24 hours a day for 9 days.

In early September 2009, when the gas company was done with the fracing, the flaring started. Close to the wastewater impoundment, the gas company placed a large blue pipe that was to be used for the flaring after the wells were fraced, located approximately 500 feet from my house.

We had to go out at 4 a.m. and rescue our beagles due to the extreme noise and heat. We found my dogs out there cowering in their dog boxes. We put up with this noise for 3 days. After I returned home from Wal-Mart, I just had to get away from this for a while; I found a "local volunteer" fire department at the site. The local fire department was "not" even our local fire department that should be in my area! The fire department that would normally cover a fire in my area is West Middletown Volunteer Fire Department, located about 8 minutes away. The fire department on scene was Canton Twp Volunteer Fire Department, located about 20 minutes away. At the time, I did not even think about why Canton was at the scene and not our fire department.

The fire department had a truck down at the flare, spraying the blue flare pipe. I could see the liner of the wastewater impoundment with little fires across the top of the impoundment and around the corner of it. Each smaller fire was low to the ground, right above the wastewater impoundment liner. The extent of the fire on the liner was not truly realized until days later when the gas company replaced a very large section of liner that had burnt in the fire, which can be seen in my photos.

The fire department with their one unit stayed there the remainder of the time during the flaring. But even with this presence, we felt very fearful of our lives. The fire department was a local volunteer department and we did not even know if they had the proper training to deal with such a fire, let alone whatever the chemicals that were in the impoundment.

I was really scared. My son and I went running down there to see what was going on. I get one of these guys with a white hat and I asked him what was going on, he said that they were trying to cool down the blue flare pipe. I thought I was going to have a heart attack right there. Neither the fire department nor the drilling company ever came to our house to warn us of the fire. "No evacuation was issued."

I did turn in this situation to the Pennsylvania DEP, but nobody believed me that there was a fire. The DEP was not aware that there was even a fire. The gas company claimed there was never any danger and there was not a fire, but my pictures speak otherwise. Not until I showed the man from the DEP my pictures, did they believe me. A fire department was involved, but not even our department. We never saw a police presence, let alone OSHA, the DEP, or another type of emergency personnel such as EMTs.

Evidently, 911 was never called by the gas company to notify the fire department of the danger. If 911 had been called, the DEP would have been notified of the fires. As I mentioned, the DEP was not aware of the fire.

I found out later from one of the workers that they were using an 8-inch pipe on this flare, opening all seven wells at once to flare. I was told they usually only use a 2-inch pipe to flare. This almost ended in disaster. I was told by someone in the company that they were "learning as they go." My response to them was, Unfortunately at my expense. It was really tremendous, this noise and the heat from this thing. When it was lit, it sounded like a 747 jet within my home. We lost days of sleep.

It is important to point out that all this was going on soon after my husband Dave was diagnosed and dying of kidney cancer. Not only did my son and I have to deal with living through this, but we were attempting to support my husband through his illness. Through all of his illness, there was never any compassion from the company. We were never informed of anything going on around us. We were never informed of the dangers. The only thing they ever offered was for us to be "displaced" from our home and go to a motel during the drilling, fracing, and flaring. All my husband wanted was to live his final days in peace at home, not in a motel!

By the third day I was beside myself, I went down to the corporate office to try to get this shut off. My husband asked where I was going, I told him, Out, but he knew where I was going. At the corporate office, I told them I was going to charge them by the hour for every hour they put my family through this hell. The man I was talking to said he would be up to the house in an hour. I said to him, Just remember on your way home from my place, I have to live there. When I arrive home, my husband asked if I was nice, I said, I tried to be.

Within 1 hour of leaving the corporate offices, the guy from the gas company arrived. Within 2 hours, they had the flare shut off. I was thrilled, just to have a normal country sound.

One thing I found out later was how dangerous this fire was with the chemicals in the wastewater impoundment. The entire impoundment, the surface of the water and all, could have caught on fire. The only protection I had was a "local volunteer" fire department hosing down a flare pipe.

After the fracing and still to this day I have this hissing and rattling sound in my ears, it sounds like I am in a pit of rattlesnakes. I told them the day I went to the corporate office that the noise was rattling my windows and doors. Even though we did not have air conditioning, we had to keep our windows and doors shut. It was terrible.

Despite the fire and the melting of the impoundment liner, the gas company "patched" the burnt sections. The wastewater impoundment and all its noxious smells remained in my back yard until late spring. A representative from the gas company came to my house and said that they were finally going to get rid of the impoundment. I asked why, he said "it was the right thing to do." He did not mention that I had hired an attorney and that there was too much bad publicity, because I had already made the media a couple of times and have had numerous people up to my property to see the hell my family was living through. This situation was only made worse by the fact that the gas company never contacted us, warning us about the flaring and the dangers that were involved. Once the situation became out of control, neither the gas company nor the fire department thought it necessary to evacuate both my family and all the other families around us. We even wondered if the fire department had any clue as to how truly dangerous the situation had become when dealing with the flare pipe, let alone the chemicals in a wastewater impoundment.

The good news about the wastewater impoundment being filled in was bitter sweet. On February 26, 2010, my husband Dave died. I know he would have been proud of me.

Senator CASEY. Thank you for your testimony. It's always difficult to give testimony on a subject that's part of your daily life. It's ever more so difficult when you have your own tragedy. We're grateful you're willing to be here with us. Thank you.

Finally, our last witness, Mr. Tijerina.

STATEMENT OF RALPH TIJERINA, CSP, CHAIRMAN, SAFETY COMMITTEE, PENNSYLVANIA INDEPENDENT OIL AND GAS ASSOCIATION; HEALTH, SAFETY AND ENVIRONMENTAL DIRECTOR, RANGE RESOURCES, CANONSBURG, PA

Mr. TIJERINA. Good morning, Senator Casey, members of the HELP Committee. Thank you for the opportunity to testify today.

I am the director of health, safety, security and environmental for Range Resources Appalachia. As stated above, I'm also co-chair of the Joint PIOGA, Pennsylvania Independent Oil and Gas Association, and the Marcellus Shale Coalition Safety Committee. I have approximately 32 years of experience, with the last 3 years in Pennsylvania.

Since 2008 I've been involved in training the first responders in the Commonwealth to help them understand potential dangers and hazards that exist on various stages of natural gas extractions.

I believe that first responders must be aware of the environment they're responding to so as to not cause harm to themselves or others. Range Resources has worked with the Lycoming County Gas Task Force to conduct mock emergency drills for first responders so they could identify areas of improvement and at the same time conduct a needs assessment.

There were over 120 participants and various agencies that were represented. We are currently working with the Pennsylvania State Fire Commissioner and the State Academy to develop a num-

ber of training modules for various departments in emergency response. The Joint PIOGA Marcellus Shale Coalition Safety Committee is made up of industry representatives, meaning operators, the service companies that provide the work in most locations, various consultants within Governmental agencies, such as OSHA, the DEP and Lycoming Department of Public Safety.

The members of the safety committee are broken down further into different disciplines to address areas more specific, such as crisis management, drilling completions, production, and a number of others. From a safety perspective, the subjects of the committee are in direct relationship to our industry and how they apply, fire protection, signage on wells, Pennsylvania's PPC plans, which stands for preparedness, prevention and contingency, fire resistant/retardant clothing, just to name a few.

According to a report by the American Petroleum Industry entitled Economic Impact, Marcellus Shale: Implications for New York, Pennsylvania and West Virginia, the economic impact for the Marcellus could be up to \$25 billion by 2020 and could create up to 283,000 jobs.

I will make myself available to answer any questions that the committee wishes within the natural gas drilling operations and Marcellus to the best of my ability. Some other comments that I would like to add are things that have been done with the industry.

In 2008 industry worked with OSHA to develop an oil and gas training program where a number of their inspectors were brought in, and industry brought in equipment and personnel to speak with them about the hazards and the components of the operations just to make their inspectors more familiar with what we have so that we could work together to develop a safe working environment.

Recently, within the last 2 weeks, PIOGA has also signed an alliance with OSHA so that we could work together and develop these programs and establish the training required.

One of the other things that industry is doing with OSHA is developing a 10-hour and 30-hour training course that is predominantly for the oil and gas industry. This work is currently being done through West Virginia University in conjunction with OSHA's Charleston's office.

There are other programs out there, such as Safe Land and IADC Rig Safety that a number of different operators are utilizing in order to ensure that we have a safe workforce that understands our industry and requirements of the industry.

One of the first things that we had identified through the Lycoming First Responder Training was that when somebody was to respond on one of these sites, that there was a possibility they would respond to possibly construction or production or a drilling rig. You can't make the assumption that all of a sudden when you show up, there's going to be a big drilling rig there.

So one of the reasons that we held this drill was to orient all the first responders with regard to what they could be coming across when they come out to a location. This was very informative.

We had a number of people come in, including trauma specialists from a Philadelphia Hospital to help us assess different situations. This gave us a lot of lessons learned and also helped identify needs analysis, because one of the things that we did identify was that

a number of first responders had not been exposed to our type of industry, and, therefore, there would be an effort that industry would need to make to bring them up to speed to understand exactly their role and our expectation with regard to emergency on site.

Other things that have come out of some of this programming or these discussions that we've had have been the 911 addressing. We feel that because most of our locations are in very remote areas, first responders along with industry needs to have a way for them to get there as soon as possible.

We've also established a protocol where flare notifications are conducted. Therefore, whenever flares are started, we contact the local 911 public safety officials and notify them so that they're aware of it. Once the flare is completed, we notify them it's completed as well.

During pipeline blowdown, whenever we're pressure testing lines, the protocol is for us to contact the Public Safety Department as well and notify them of it, because one of the concerns that we have is when a situation like this does occur and they're releasing the nitrogen, which is inert gas, after the pressure test, it may sound like gas leaking out of the line. Therefore, it's more of a precautionary measure.

The other thing that we looked at is also the 911 addressing of impoundments, because the addresses to the well sites may not necessarily be the address to the impoundment in the event a situation ever occurred.

Thus far we have provided over 60 presentations to over 1,500 first responders throughout the Commonwealth and in West Virginia. In order to identify means to communicate to more first responders in a more timely manner, we've approached the State Fire Commissioner and asked him if there was a way that we could work together to try to develop some training so that this information can be dispersed in a more timely manner. We are currently working on that with our first force scheduled to be on August 10 of this year, which if you're available and wish to attend, we'd be more than happy to have you. But the plan is to train the trainers who can then go out to the different areas upon request and provide the training to the first responders.

Some of the things that we have asked with regard to operations is to develop protocols so that whenever we do have an activity occurring, that an emergency response plan is identified and on site. One of the things that we try to do is communicate to everyone so that if a situation does occur, then everyone understands what the plan would actually be.

In some cases we have actually worked with the township supervisors to coordinate the activity. We have worked with the local schools to schedule their buses or identify when they're coming through so as not to block traffic or impede the vehicles getting through there.

We have also worked with public safety and have had volunteer fire departments actually sit on our locations just to be there as a precautionary measure. We've also had EMTs and such as well.

Different variations of well site emergencies can be physical injuries, equipment damages or even near misses. One of the things

that we try to do is ensure that everybody does what they need to do to prevent an incident from even occurring. And with that, two main things that contribute are going to be either what you would call property damage where you have an unsafe environment, or somebody conducting an unsafe act.

We train our personnel to understand that shortcuts are not acceptable. There are procedures and things we have. Job safety analysis are conducted. Risk assessments are developed. Hazards are identified. People are trained. Then we minimize the potential for any tragedy occurring.

Some of the information with respect to well control specialists, they are worldwide with the three primary companies in the United States, there are 60 listed well control specialists that actually are dispatched to handle well control, like I said, on a worldwide basis.

These are very specialized people. When they do respond, they have specialized equipment along with engineering backgrounds and such, because it's not just a matter of putting the well out at the surface. You have to consider everything that's going on below the well also.

So if you have any questions, I'll be more than happy to answer them.

[The prepared statement of Mr. Tijerina follows:]

PREPARED STATEMENT OF RALPH TIJERINA, CSP

Good morning, Senator Casey and members of the HELP Committee. Thank you for the opportunity to testify today. My name is Ralph Tijerina and I am the director of Health, Safety, Security and Environmental for Range Resources Appalachia, LLC and as stated above, I am the co-chair for the Joint MSC/PIOGA (Marcellus Shale Coalition/Pennsylvania Independent Oil & Gas Association) Safety Committee. I have approximately 32 years of industry experience with the last 3 years being in Pennsylvania this September. Since 2008, I have been involved in training of First Responders in Pennsylvania to help them understand the potential hazards that exist on various stages of Natural Gas extraction. I believe that First Responders must be aware of the environment they are responding to so as not to cause harm to themselves. Range Resources Appalachia, LLC had worked with the Lycoming County Gas Task Force (Pennsylvania) to conduct a mock emergency drill for First Responders to identify areas of improvement and conduct a needs assessment. There were over 120 participants and various agencies were represented. We are currently working with the Pennsylvania State Fire Commissioner and the Pennsylvania State Fire Academy to develop a number of training modules for various departments of emergency response.

The Joint PIOGA/MSC Safety Committee is made up of industry representatives (operators), service companies, consultants, and governmental agency representatives such as Occupational Safety and Health Administration, Pennsylvania Department of Environmental Protection, and the Lycoming County Department of Public Safety. The members of the Safety Committee are broken down further into disciplines to address areas more specific to the classification such as Crisis Management, Drilling, Completions, etc. From a safety perspective, subjects of the committee are in direct relationship to our industry and how they apply. Fall Protection, Signage on well sites, Pennsylvania PPC Plans (Preparedness, Prevention and Contingency Plans), Fire Resistant/Retardant Clothing to name a few.

According to a report to the American Petroleum Institute, titled "The Economic Impacts of the Marcellus Shale: Implications for New York, Pennsylvania, and West Virginia," the economic impact of the Marcellus Shale could be up to \$25 billion by 2020 and create 283,000 badly needed jobs.

I will make myself available to answer any questions that the committee wishes to address within the Natural Gas drilling operations in the Marcellus Shale to the best of my ability.

Senator CASEY. Thank you very much. I want to thank all of our witnesses for your testimony.

First thing I want to do is to highlight a few things for the record, a few news items and pertinent parts of recent news stories. We've had in the last couple of days a number of stories in many newspapers about what happened in Indiana Township, and we all share the sense of loss and extend our condolences to the families of the lost two workers.

We've also seen a lot of news that's related to what happened in Clearfield County. I was looking at a story from last week, among many, but just one about the report that was done on the Clearfield blowout where the State had an investigation done and then imposed a fine of \$400,000 in the aftermath of that investigation.

I'm reading just a couple of pertinent parts here. One is that Secretary Hanger said the following, "That EOG," the company involved, "had employed only one mechanism to keep the high pressure gas well under control, and that measure had failed at the hands of employees who are not certified in well control techniques."

Later the story goes on to cite what the expert said who was retained to complete the report. He said, "I don't know any company that would cut corners like this on this kind of well."

Secretary Hanger noted that in the Clearfield incident, there were no injuries, thank goodness, and no deaths. The well did not ignite, and the site has been cleaned up. That's good news.

He noted there were 35,000 gallons of wastewater that DEP says gushed from the well which contaminated the nearby site. But he went on to say there was no permanent damage. So that's good news.

Unfortunately, in the incident from last week, among other things, it was—I'm reading here from a Pittsburgh Post-Gazette story just yesterday, Sunday, July 25. It notes at the end of the article—the title of the article for the record is "Well Blast Prompts Call for Stricter Regs." That's the title of the article.

Toward the end, it said, and I'm quoting from what the writer said,

"There appear to be few provisions for emergencies like Friday's incident, although drilling companies are required to post bonds and notify the DEP within 24 hours of any emergency. No regulation presently requires a drilling company to make arrangements to have experts like those who work for, in this case, the Wild Well Control Company available within Pennsylvania. In Pennsylvania this year, 3,345 well permits have been approved."

And it goes on from there.

I guess one of the main questions I have—I'll start with Mr. French—we heard a moment ago Mr. Tijerina talk about the work that's been done in Lycoming County. I wanted to know from you whether or not the Lycoming County Natural Gas Task Force—A, let me have you assess that to the extent you know about that task force, and, B, what can we learn from that or take from that as a model or at least an example that we hope to replicate?

Mr. FRENCH. Senator, the work that's being done by the task force in Lycoming County is, in fact, terrific work. In fact, it's a model we have been using to train others throughout the Common-

wealth. What we've done is taken their experiences, their lessons learned, and we have then, been training in our area offices.

I mean by that that we do training quarterly for all county emergency managers to familiarize them with what the hazards are, what they can expect, so that when it comes to a response, they are going in with their eyes more open.

So we have been doing that work using the task force partially as a model. We've also been working with the safety task force and PIOGA to develop additional training for our emergency management personnel, and from those two instances, we are better providing the picture for what a first responder needs to contend with.

As was mentioned a bit earlier and I think it is relevant, it's not unique to the Marcellus Shale wells. First responders need to know what to do and in some cases what not to do based upon the chemical or the type of materials that they will encounter. Knowing that up front and knowing that when they get to the site enables them to make better decisions and the right decision.

Senator CASEY. Tell me specifically, because we want to do everything we can to provide very specific guidance here, not only obviously for legislation, but also for those who are currently involved in this kind of work. We want to make sure that we have changes that can be made even without legislation, but obviously legislation is part of that, but that takes time. We don't want to have a gap while you're trying to pass legislation or change regulation.

Tell me specifically as it relates to the Lycoming County example, that task force, what they're doing, or generally other examples. Tell me specifically what needs to be in place in terms of a practice or a procedure on the site to do everything possible to reduce the chances of injury or death or health and safety or environmental problems.

Mr. FRENCH. Senator, there are a couple of things that come to mind just to start with. First of all, as permits are issued, that local emergency responders can be notified of those. There is a system that the DEP—an electronic system that DEP has available, not only for first responders, but to anyone who should choose to subscribe, to first alert that there is a permit issued and a well that is anticipated; second, there's a list of chemicals or items that will be used in that process so that first responders can, in fact, begin to prepare; and third, training to those particular potential hazards.

So those two things have been done and will continue to be done, as was mentioned, with the training that is currently being prepared that the office of the State Fire Commissioner is working with.

Those items and the familiarization of the site in general will better help first responders to know what they're encountering prior to arriving, and that safety-wise is a key for first responders as well as those on site. And in doing that, the better prepared they are with knowing what's at the site, the better their capabilities will be to respond.

Senator CASEY. Anyone else on this question about what should be in place on a site long before any incident happens?

Mr. TIJERINA. There's a couple of things I wanted to add to the record as far as additional things that have been learned. Some of

them are some basic OSHA trainings that we feel that more people should have advanced or enhanced training with with regards to confined space. Even though we have specialty groups, the local or the typical first responder may not have been exposed to these. So when you're dealing with confined space entry, things of that nature, there's an inherent hazard associated with it. Therefore, gas monitors should be maintained.

Some of the things that we have identified through some of our discussions through the training with first responders is that not all first responders have the proper equipment with regard to gas monitors and such at final location. Other things we have looked at was in familiarizing them with the drill site are material safety data sheets of all chemicals which were on site. So if they did need to go and identify what the chemical components were or hazards were, that information is readily available to them and where they can go to.

We've also talked with them about other OSHA protocol, like lockout/tagout where a lot of equipment out there is electronic and there are things to be aware of upon coming onto a location, and by telling them the different components and types—there's a different jargon that's related to the oil and gas industry. So the No. 1 thing we tell them is find the person in charge, who is typically going to be a company representative, and tell them to take you there. Don't assume that if they tell you to go to the doghouse, that you know what the doghouse is. There's a lot of terminology like that. And at a time in the emergency, people are going to say things thinking that they are communicating and they're not.

Some of the other things that are coming specifically from the Lycoming Energy Task Force is an algorithm for dispatchers which is going to enhance some studies or some training they're receiving now. What it does is it gives them an opportunity that if an emergency call did come in, that these dispatchers will be able to ask certain questions so that they can identify the right resources and they could be dispatched to that particular site.

Another thing they've come up with is also a quick list upon arrival, and that is things like asking is there H₂S on the well site, what all is going on, because the last thing you want is for somebody to approach a site unknowingly where there may be an H₂S hazard, which is a poisonous gas, and all of a sudden you have injuries or fatalities.

We're developing these types of checklists that can be used just as a precautionary measure upon arrival. This is not only for dispatchers, emergency responders, but also for law enforcement and medical services.

Senator CASEY. I wanted to ask Director French just in terms of what we know so far about the Indiana Township incident, anything you can tell us today that gives us an update for today?

Mr. FRENCH. There is no final report at this point, but I think a case in point has just been highlighted. The first responders in knowing what they were dealing with, gas versus oil, we were able to choose the right type of retardant in order to help control the fire. That, again, goes back to the training and the exercise and the knowing what kind of chemical you're dealing with or what kind of incident you're dealing with in advance.

So I think they did a tremendous job in their response in knowing what to do and knowing what they should not do.

Senator CASEY. Well, we look forward to the final report. I know so many families in southwestern Pennsylvania will be anxious to read that report.

Professor, I wanted to ask you how you see this in terms of the set of standards that should be in place. You highlighted the history and the evolution of change in the coal mining industry. What kinds of standards do you think should be in place as it relates to oil and gas extraction?

Mr. IANNACCHIONE. There needs to be additional standards. I think everybody recognizes that. And that's an important thing for government to figure out what should they be. My point is that it's hard to imagine that we could come up with standards and regulations that cover every scenario out there.

So in the case of the Clearfield County incident, it seems to me that if a proper risk assessment would have been done initially, a lot of the potential hazards and efficiencies in the design of that work process could have been addressed.

I can't believe you could have just one prevention control in place. And then for it not to function means that something terribly wrong happened there. So if you're doing a risk assessment on your own and you're getting it reviewed by some independent organization, then deficiencies will be identified before any drilling occurs.

With that particular process, I think how we can avoid the kind of situation that we had in Clearfield County is that this becomes your plan and you're suggesting that this is what you need to do. So when an inspector comes to the site, they look at your plan. If you're not following your own plan, I think that that's really inappropriate behavior, and the companies just wouldn't do that.

I think going forward, we need a combination of regulations that set some baseline standard for industry to operate under, but we also need to ask industry to go beyond that, because we can't possibly identify every situation that's going to occur with those wells. There are a lot of hazards in drilling oil and gas wells, and they all need to be considered separately.

An additional point, we talked about risk. Risk is a combination of the likelihood an event will occur and the consequence of those events. So if you drill in a remote area in Clearfield County and you compare it to drilling in Allegheny County, probably the likelihood something will go wrong will be similar, but the consequences are much different. I can't believe that the plan should be the same for drilling in a populated area or near a residence like June's as it would be if you were in a remote area. The consequences are much greater. So that needs to be considered.

Senator CASEY. I know you spent part of your testimony talking about risk assessment, which is obviously of critical importance. I wanted to draw upon some of the experience that CONSOL has had in a whole variety of circumstances and scenarios. Your drillers apparently are trained in blowout prevention. Examples like that in terms of your training, how would you compare some of that training that your employees have as opposed to industry-wide? Do you think that's part of the problem? Is there a set of

training regimens there, that are not in place, that you have? How do you assess just in terms of training?

Mr. DEIULLIS. I think, Senator, that the training regimen, the equipment design, the layout of the risk assessment plans and the implementation of those plans, you're seeing two broad groups within the industry develop. One group takes a much longer view of things, and we're certainly in that camp. Again, we've been around for decades and decades. When we look at Marcellus Shale, we see another 30-, 40-year opportunity with regard to this region, which means when we look at it on the 30- or 40-year horizon, everything CONSOL has spent with regard to training and infrastructure and equipment, from blowout preventers to training of contractors and employees, is an investment to make that 30- or 40-year opportunity come to fruition sooner rather than later.

Another approach would be to look at it as simply the next well, whether because of the investment community or because of whatever stakeholder entity is interested in the here and now. When you look at it in terms of a short-term issue, your whole perspective changes with regard to those things we've discussed.

I think it's critical, and this is something we draw upon with regard to the coal industry experience we've seen in the region. These are long-term opportunities, wonderful opportunities for this region. The path that we see that works in the past is one that has the values correct with regard to safety being at the top, and more importantly, in some instances taking a long-term view. We're going to be here not just this year, but next year, the following decade, etc, and we care as much about the region as anyone else does.

I think sometimes that long-term perspective gets lost both with regard to the companies at times because there's a lot of pressure to look at certain well results and drill that next well and pollution techniques and those type of things with regard to the investment community on Wall Street, looking at quarterly results as opposed to looking at longer term story and opportunities, and frankly, too, with regard to a lot of the people that are leasing these rights.

It's oftentimes simply dollar per acre and royalty rates that they're interested in, which, of course, are important from a money standpoint, but if I'm a land owner and I live in this area, this region, I want to know that the person and the department I'm dealing with on the drilling development side does have the values in the right order and is going to take a long-term view with regard to that list. I plan on being here so we don't have the situations or incidents arise that June outlined.

Senator CASEY. When we assess what happened in Clearfield County, it's as if it was an example that was one you could develop in a training class where you would say here are the things that could go wrong and what you have to do to prevent it. It seemed like so many things went wrong.

You had the delay of hours and hours before not just notification, but then additional delay of many hours before you had someone at the site. That was one big problem, the long delay. Two parts of the delay.

Then you also had a lack of expertise on the ground. You had to wait for people to be flown in from Texas to provide expertise there. In Clearfield County, it's a list of problems.

I noted in the proposed legislation that I have, among several elements here, one of the them is to contact—there are several of them—contacting first responders within 15 minutes, contacting OSHA within 1 hour, providing and then making sure more broadly there's communication technology at the site.

You mentioned that one of the priorities that you focus on is communication. I want you to elaborate on that in terms of what you do, what you've found to be particularly effective just to the issue of communication.

Mr. DEIULLIS. Communication, I can't emphasize enough the importance of that, especially when you're in the midst of a crisis. Time is of the essence. You look at some of the tools we employ within CONSOL Energy.

One of the basic components of that is what we call our command center. Our command center is located in our corporate headquarters. It's manned 24 hours a day, 7 days a week, 365 days a year. We're aware if there's any big problem again with regard to an accident at one of our gas well sites or mining locations, whether it's contractor or employee, if some piece of equipment goes down, if there's a power failure that affects the safety of that operation, or any type of agency, whether it's MSHA, OSHA, State, Federal, all of the above, need to be notified.

The purpose of that command center is to make sure that that information is deployed as soon as possible in real time, that everybody, more importantly, is on the same page with regard to what the situation is.

Now, the concept of the command center is not something we haven't seen before across different activities or industries in this country, and, again, it's an investment that we made not for just the here and now, today or this week or next month. It's an investment we've had for years, that we take a decade after decade approach with regard to that.

So the command center, whether it's in Clearfield County if that's where you're drilling, or whether it's headquarters related, and it goes out across the entire company, regulator base and first responders. It's one of the most basic things that helps address that communication issue right off the bat.

The other thing though that's important is that the command center is ready, but as we've discussed earlier and you heard earlier this morning, drilling and during the drilling phase and completion phase is not a 9 a.m. to 5 p.m. activity. It's a 24-hour activity, which means you either look at the site assessment to make sure you got people on site at 3 a.m. just like you do at 2 p.m. that are trained in terms of how to notify, who to notify, training with regard to the proper procedures and processes, because when we look at risk, risk doesn't punch out at 5 p.m. Risk is a 24-hour issue.

Senator CASEY. I wanted to go back a moment to some of the core elements of what makes a good safety regimen that provide that kind of assurance. I did want to ask June Chappel a couple of questions about her own experience.

We're grateful that you would come here today and provide the testimony, especially in light of the personal tragedy you've had to live through.

As you were testifying, I was writing down the words that kind of leaped off the page and kind of leaped from the microphone, so to speak. I wrote down the word smell, noise, scared, days of sleep lost, words like that and phrases like that.

Part of this, I guess, is we can think of the most extreme examples of what communities are living through, and obviously when there's a death or a severe injury related to and/or a site related to the drilling, that's the most poignant, most substantial example, but also just the kind of day-to-day quality of life issues that sometimes don't get as much attention as a death or injury or substantial environmental contamination or degradation.

The testimony you provided today, that kind of walk through your life and the community that you live in that highlights just the grind of this, whether it's the noise, the smell or the kind of anxiety that it can produce is especially important, and then, of course, the part of your testimony that talked about your husband with that diagnosis just wanting to have some peace and, of course, you and your loved ones wanting to give him that kind of peace that everyone should have a right to expect.

I guess it's hard for us to encapsulate that kind of experience, even in one set of testimony, but we're grateful that you did that. I wanted to ask you as well, what do you think we can be doing better, not just in terms of responding to an emergency and not just in terms of preventing something like a death or severe injury or environmental contamination? What could we be doing better at the State and Federal level to speak to some of the issues that you raised in terms of kind of quality of life and issues like that that you highlighted?

Ms. CHAPPEL. I would like to see that these wells are not placed near people's homes and these impoundments.

Senator CASEY. The proximity?

Ms. CHAPPEL. Yes. What was done to me, it was horrific. It was just never ending. For 2½ years, every day, every day and every night I had to put up with it, and it was just—to me there's no excuse for this. I didn't ask these people to come to my neighborhood, and it was just like they just could do what they wanted and whatever.

But I really would like to see that regulations are passed so that they don't do this near people's homes again.

These water impoundments, they're terrible. The smell, it makes you absolutely sick. It's like having a can of gasoline inside of your car and sitting in it. And that is the smell that you smell every day. And it just should not happen.

Senator CASEY. Prior to this, you had lived in that same location how long?

Ms. CHAPPEL. We've been there for 23 years.

Senator CASEY. Twenty-three?

Ms. CHAPPEL. Yes.

Senator CASEY. I was also going to ask you after the fire at the containment pond and you had contact with the Department of Environmental Protection you said, did local police or firemen contact you to follow up on the incident?

Ms. CHAPPEL. No, not at all, no one. No one did. It just seemed like everybody was just kind of being very quiet about this, like it didn't happen, but it did happen.

Senator CASEY. That speaks to the main issue we're talking about here today, which is how we respond on behalf of an incident.

Ms. CHAPPEL. Yes. I felt very, very unsafe. I mean, I was so frightened. I thought that big blue pipe was going to explode. I absolutely felt like I was going to have a heart attack right there.

Senator CASEY. I was also going to ask, and I should have done this earlier, can you describe just for the purpose of the record the picture that you referred to.

Ms. CHAPPEL. This is almost like outside of my back yard. Unless you've ever been near one of these flares, you just have no idea the amount of noise and the heat that these things put off. In my home I have windows with grates in them, and my grate were going like this for days. I mean everything in my house—

Senator CASEY. You mean shaking?

Ms. CHAPPEL. Shaking. Everything was rattling. We couldn't sleep. It was absolutely terrible.

Senator CASEY. This is a picture, just to be precise about the record, this is a picture you took?

Ms. CHAPPEL. Yes.

Senator CASEY. From your home?

Ms. CHAPPEL. My back yard. I have a lot more here that you can look at.

Senator CASEY. What's the date on there?

Ms. CHAPPEL. 9/7/2009. While this was going on, it was a very warm fall, and I had to have my windows and doors, everything, shut in my house.

Senator CASEY. September 7, 2009?

Ms. CHAPPEL. Yes.

Senator CASEY. I wanted to go back as well to get a better sense of the—and I ask this question for all of our witnesses. Just in terms of the checklist, I know the legislation that I proposed again just in terms of the highlights of it, having OSHA issue regulations that have an employee knowledgeable in responding to emergencies present at the well site at all times, making available a certified response team within 1 hour ground travel time, and then the time intervals for contacting first responders, OSHA and National Response Center, the communication issue that I highlighted before, annual training of first responders, and finally an annual report with OSHA.

But more broadly or even adding to that list or highlighting it, anything that any of our witnesses—any point you wanted to make about how we can add to this legislation or make it stronger in terms of those safety precautions that we can put into place?

Mr. IANNACCHIONE. I guess one question I had when I was a looking at the draft, Senator, this one person that would be responsible, that's a lot different than the situation we have in the mining industry where the mining sites are contained in well-defined areas and they're there for years, and there's typically one person that's responsible at the site.

A lot of the oil and gas drilling operations, from what I understand, have multiple companies that have responsibilities. So I was curious as to how we would be able to really determine who that one person is and how that part of the operation can be defined with so many different people coming in.

Senator CASEY. Well, certainly I think OSHA would have to provide a number of definitions that are highlighted, whether it's that definition or others. That would be part of the regulatory process.

Anything you wanted to provide to us, and of course, this applies to all of our witnesses, you can add to your testimony and add to the record. Any guidance on that issue we would appreciate. Because one of the questions that I have, and I'll leave the question I just asked on the table for our witnesses, but in addition to other provisions that we might want to consider, one of the challenges we're going to have is if we're going to require expertise, we have to make sure that we have a ready supply and have the education and training programs in place to provide that kind of expertise at the site and even offsite that comes to the site to respond.

Anyone else before we move on to another question?

Ms. CHAPPEL. I would like to let you know that 2 weeks ago at 1 a.m., I had to call 911 because I could hear this screaming roar of the gas lines right next to my home. I didn't know what to do. I was really frightened again. I called 911, and the 911 operator said he would have to get his supervisor because he did not know who to contact to find out what was going on out there at my house. So I called 911, and I still don't feel safe. It's terrible.

Senator CASEY. So when he said that, what happened after that? He said he had to contact his supervisor?

Ms. CHAPPEL. He had to get his supervisor to find out who to call to see what was going on up there. I later found out that they were purging the lines. I was never notified that anything had happened. All I know is I woke up in the middle of the night, and these lines were screaming, and I was so afraid that it was going to blow up.

You know, it's terrible, but I live there, and I don't even feel safe in my home.

Senator CASEY. You found out later what happened?

Ms. CHAPPEL. Yes. I was told by someone at the gas company that they were purging the lines.

Senator CASEY. That's another example of what we need to improve on?

Ms. CHAPPEL. Yes, exactly.

Mr. DEIULLIS. Senator, I think, too, when we look at the number of companies within the industry, the geographical scope of what we're looking at and the long-term nature of this, the magnitude of the training demand for everything from first responders and emergency response to the actual providing of the activities from start to finish, it's an enormous opportunity, but it's an enormous number of workers and training that we're going to need to initiate upon as a region.

That's going to require not just the players within the industry. It's going to require the assistance and coordination of educational institutions across this region. It's going to need to include policy-

makers like yourself, and it's going to need to include in some, shape or form labor as well.

Until we get all of those different links in that chain of development lined up and really focusing on what, again, is an enormous opportunity but an enormous task at hand as well, the number of wells, the number of players, the number of acres that we're looking at, we're not just talking about a couple dozen individuals. We're talking about hundreds and hundreds of workers that need to be trained across a range of different areas.

Senator CASEY. I guess part of this, if it isn't done already, part of this is an assessment of the numbers that we're going to need in terms of all kinds of workers and then those that have particular training or expertise. If I had to guess, I would say that if you did that assessment, we would find a deficiency somewhere along the line, either places in a State like ours where you have the curriculum or training program available, maybe not the funding that's necessary, or places where you have the potential for expertise to be developed or a workforce, maybe not enough of a training structure in place or curriculum.

In terms of providing that kind of expertise, what do you think we're going to need in place? Is this just the enlargement of existing training programs and funding for it, or do you think you're going to need to deploy a whole new set of training or curriculum? Does anybody have any thoughts on that?

Mr. FRENCH. Senator, in regard to the training itself, like other training that we will do for hazardous materials or response, it has to be institutionalized so it's not a one time and done. It is, as was mentioned, a very broad training base of the industry, of first responders and emergency managers in general. Then there's the communication piece, which I certainly value June's comments about, getting back to folks after an event has taken place.

So the training part is one that will be an ongoing process. That's what we want to develop. The industry has been doing some training for the first responders. We are broadening that out through what we're doing with the local government and State Fire Commission.

Senator CASEY. I know we're running low on time. I want to leave a couple moments for wrap-up. Anyone have any comment you want to make or any point you want to make before I wrap up?

Mr. TIJERINA. There are a couple of things I'd like to address, if you don't mind.

Senator CASEY. Mr. Tijerina.

Mr. TIJERINA. Senator, one of the things that we need to assess is the definition of an incident or a situation where a notification needs to be made. When we talk about well control training that we expect people to have, some of that activity is based on different levels.

A level one, for example, are things that the workers are trained on to deal with when it comes—whenever a kid or something comes up where they have to control the well. They're taught this through SEMA measures. Usually it's a 3- or 4-day class that they have to go through. These occur all the time because that's part of the drilling operation, is keeping everything in balance.

When it gets to a level two, that is typically whenever you have a potential situation occur. It can still be managed, but you don't necessarily need to have a well control expert there to actually perform the duties.

When you start getting into a level three, that's when you have a situation. And when you start talking about expertise and people that respond, just bear in mind that there are different levels of activity that are going on, and, therefore, when we define expertise, which level are we really looking at.

Senator CASEY. Level three meaning greater severity?

Mr. TIJERINA. Right. That's where when some of these companies that respond that have these well control specialists, most of them have a minimum of 15, 25 years' expertise before they're even asked to come in and be trained. That's oil well experience, not firefighters. So there's a number of things these companies do whenever they decide to bring somebody into their employment.

Right now, like I've indicated, there's about 60 or less of these well control specialists and advisors that actually go to the activities or the well control situations worldwide. So if you're talking about training someone to that level, there is going to be the time that it's going to take for people to actually go through that type of training.

Senator CASEY. When you say that level, you mean?

Mr. TIJERINA. Where they can respond to a well understanding the engineering of the facing of the well, all the components there, the equipment, how it all works, whether you're snubbing or drilling, whatever the case is. They need to understand the industry and what all the different components are because they do relate to each other.

If you have somebody respond that says I'm going to shut this valve off, well, if they shut that valve off, there's a possibility that they may have a problem down the hole and now you have one underground. That creates a whole new situation. That's why they take engineering techniques to understand the whole aspect of what's going on with respect to all the provisions and how to counteract it.

Senator CASEY. I know we have to wrap up, and I hate to cut everyone off. The record will be open. It will be open for 10 days if you want to submit additional testimony or more information. We appreciate that. I'll adjourn the hearing now. Thank you very much for being here.

The hearing is adjourned.

[Additional Material follows.]

ADDITIONAL MATERIAL

PREPARED STATEMENT OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

This testimony is submitted by the Independent Petroleum Association of America (IPAA). IPAA represents the thousands of independent oil and natural gas explorers and producers, as well as the service and supply industries that support their efforts, that will be significantly affected by the Faster Action Safety Team Emergency Response Act of 2010 (FASTER Act). Independent producers drill about 90 percent of American oil and natural gas wells, produce over 65 percent of American oil, and more than 80 percent of American natural gas. American natural gas is a clean, abundant, affordable energy source that should be part of any clean energy agenda; American natural gas and oil should be part of any national energy security initiative.

IPAA believes the FASTER Act is a solution in search of a problem. There are approximately 970,000 operating oil and natural gas wells in the United States today. Over the past several years, drilling activity has added about 45,000 new wells annually. Nothing in the information presented at this hearing suggests that there are an excessive number of incidents at wells that justifies the expansive new response structure that would be created in the FASTER Act. Nothing in the hearing record suggests that the existing State regulatory programs are not fully capable of responding to events that do occur.

To put this issue in a better perspective, most of the accidents are single worker incidents that do not involve a threat to co-workers or the public. Fires and well control incidents are the most serious. These types of incidents are extremely rare and normally do not pose a risk beyond the immediate area of the well or equipment. Fires and well control incidents normally require securing the site and calling well control experts, who have developed very specialized expertise through operational experience and by handling these types of incidents countrywide or worldwide. The well control companies, such as Boots & Coots or Wild Well Control, typically provide immediate advice to the well-site by telephone and are able to physically arrive at a well site within hours. The equipment that they need is often being mobilized while they are traveling to the site—equipment that is often specialized for the particular type of incident and does not need to be positioned until the type of incident is assessed. Similarly, response to these incidents is not suited to routine training. Rather, rig crews are trained to minimize the risks to themselves and to contain the situation until experts arrive. The specialized skills of the well control experts would have little benefit if the scope of their work is constrained to a certain area in a State (e.g., 1 hour from the well site). Instead, it makes sense for these individuals to continue being organized in offices throughout the United States and to have all wells in the United States or North America or the World within the scope of their work. This approach allows them to keep their skills current and gain experience.

The FASTER Act draws its structure from the mining industry. It is not a pertinent model. Mining law regulations require mine operators to provide two mine rescue teams that must possess certain qualifications, training and certifications and be available to each mining location within a specified period of time. There also must be mine rescue stations with specified equipment at locations available for immediate use by the mine. The risks facing underground miners are very different from the risks of drilling and completing oil and natural gas wells. Accidents at on-shore well locations that would endanger multiple parties or the public are extremely rare. Having a rescue team available would not make any difference to the safety of the rig crew or the public. In short, requiring rescue teams and rescue stations for oil and gas operations would be an unnecessary waste of time, money and resources.

For these reasons, IPAA does not believe that the FASTER Act is either justified or appropriately structured to address the types of incidents that occur at oil and natural gas drilling and production operations. State regulatory programs have demonstrated their capability to manage the limited number of incidents that occur without needing the excessive Federal structure proposed in the FASTER Act. Furthermore, current industry capabilities have and will continue to offer quick and effective response to well control problems.

RESPONSE TO QUESTION OF SENATOR ENZI BY RALPH TIJERINA

Question. Mr. Tijerina, I'd like to draw on your 32 years of experience within the natural gas extraction industry and training first responders. What are your views of OSHA-mandated training for first responders?

Answer. Most first responders in Pennsylvania are volunteers and there would be extreme difficulty for volunteer organizations to comply with this since there are no obligations for first responders to attend the training. These volunteers should be commended for their willingness to provide their time and courage to help others in their dire needs. For industry to provide them with the knowledge they need to secure an area on a well-site during a well control situation is the most that should be expected of volunteers. The well control needs should be provided by experts in this area.

There are currently procedures that the State requires with regard to notifying local emergency response agencies when an emergency occurs. The guidelines exist and the need to create additional Federal regulations is not necessary. It is actually a matter of ensuring that all industries notify the State regulatory agencies where applicable and the Federal regulatory agencies where applicable and not having to contact both. The responders in these cases are local and State agencies unless Federal agencies such as OSHA respond as they would to any other industry that has an industrial incident.

Having a response team available to be on site within 1 hour by land is an expectation that would be difficult to meet. Due to the remoteness of some of the sites and weather conditions such as ice and snow; the ability to get there in the time allocated could cause a safety issue as one tries to speed or drive erratically to meet the timeframe. Most well sites are hours away from the main or field offices. Providing a longer response time for specialized personnel to respond would be the best alternative to the 1 hour stated.

Reporting the team assigned to the well site on an annual basis may not provide viable information if the wells are drilled and completed before the reporting period. Outside of referencing compliance, the value of the report is limited in its usefulness. Having this information available during the exploration process would be more useful.

[Whereupon, at 11:55 a.m., the hearing was adjourned.]

