



## Report – West Virginia Commission on Oil and Natural Gas Industry Safety January 13, 2016

Following up on concerns stated in his 2015 State-of-the-State Address, Governor Earl Ray Tomblin on July 8, 2015 announced the formation of the West Virginia Commission on Oil and Natural Gas Industry Safety. The Governor formed the Commission through Executive Order No. 7-15. “As we continue to explore opportunities to diversify our state's energy portfolio, we must ensure the safety of hardworking West Virginians at drilling sites, production facilities and pipelines across the state,” Gov. Tomblin said. “This Commission will help us determine how to best protect workers at natural gas operations while ensuring our workers have the proper training and skills to do their jobs in the safest, most effective way possible.”

Lawrence J. Malone, the Governor’s Director of Policy, served as chairman of the Commission, which included the Secretaries of the Departments of Environmental Protection, Commerce, Transportation and Military Affairs and Public Safety. The group also included the following 10 industry and labor representatives and four legislators servicing in an ex-officio capacity:

- Benjamin A. Hardesty, as a representative with experience in oil and natural gas drilling and production;
- Chris Flanagan, as a representative with experience in oil and natural gas drilling and production;
- Bob Orndorff, as a representative with experience in oil or natural gas pipelines;
- Shawn Patterson, as a representative with experience in oil or natural gas pipelines;
- Mike McCown, as a representative of an independent oil and natural gas producer;
- Thomas Raught, as a representative with experience in federal occupational safety & health administration regulations;
- Mary S. Friend, as the representative of the Public Service Commission;
- Allen Nelson, as a representative of labor;
- Letha Haas, as a representative of labor;
- Bryan Christian, as a representative of the trucking industry;
- Senator Jack Yost, representing Brooke, Hancock, Ohio and parts of Marshall counties (ex-officio);
- Senator Jeff Mullins, representing Raleigh, Wyoming and parts of McDowell counties (ex-officio);
- Delegate Woody Ireland, representing Ritchie and parts of Pleasants counties (ex-officio); and
- Delegate Patsy Trecost, representing Harrison and parts of Taylor counties (ex-officio).

The Commission was charged with reviewing current federal and state oil and natural gas workplace safety regulations and providing recommendations for improving workplace safety in the oil and natural gas industry in West Virginia. Governor Tomblin directed the commission to complete its recommendations by Nov. 16, 2015 and to issue its final report in advance of the 2016 regular session of the Legislature.

To read the Executive Order in its entirety, [click here](#).

## Objectives

The Commission focused on these key objectives:

1. Ensure the safety of hardworking West Virginians at drilling sites, production facilities and pipelines across the state;
2. Determine how to best to protect workers at natural gas operations while ensuring our workers have the proper training and skills to do their jobs in the safest, most effective way possible;
3. Review current federal and state oil and natural gas workplace safety regulations;
4. Assess data on worksite incidents and accidents;
5. Examine training and industry best practices; and
6. Provide recommendations for improving workplace safety in the oil and natural gas industry in West Virginia.

## Scope

The scope of the commission's focus covered all facets of the state's oil and natural gas industry:

- Engineering/Site Preparation
- Exploration/Drilling/Production
- Hydraulic Fracturing
- Completion
- Gathering/Midstream Pipelines
- Transmission Lines/Systems
- Local Distribution Lines and Natural Gas Utility Service
- Natural Gas/Shale Liquids Processing

## Meetings

The Commission held six meetings as part of its fact-finding efforts and deliberations. Four of those meetings were held at the State Capitol building in Charleston. The other meetings were held in Fairmont and Wheeling so the commissioners could gather in other locations where oil and natural gas activities are prevalent – the state's northern panhandle and the northcentral region.

## Situational Overview

West Virginia is a state that has abundant oil and natural gas reserves and is one of the nation's leading producers, transporters and suppliers of these reliable, domestic energy resources. In addition, tens of thousands of workers in West Virginia are employed in the exploration, drilling, production, processing, and transportation sectors of the oil and natural gas industry. Employment has grown over the past 10 years due to the significant increase in activity related to the shale energy resources under the Mountain State. Today, an estimated 80,000 jobs are supported by West Virginia's oil and natural gas industry (source: <http://www.api.org/~media/Files/Policy/Jobs/Oil-Gas-Stimulate-Jobs-Economic-Growth/Map/West-Virginia.pdf>).

The growth in jobs is in correlation to an extraordinary increase in natural gas production in the Mountain State. According to the West Virginia Office of Oil & Gas, production of West Virginia natural gas over the past ten years has increased dramatically to an annual total of more than 1,000 Bcf. Today, data from the U.S. Energy Information Administration (EIA) shows the Marcellus Shale is the largest producing shale gas basin in the United States...accounting for 40 percent or more of total U.S. shale gas production. Associated with this the state's increase in exploration and production have been significant investments in construction and production activities designed to maximize the prolific production potential from the Marcellus and Utica shale formations. All told, tens of billions have been spent by companies to increase not only drilling and production, but also to expand pipeline infrastructure and processing plants.

However, the workers involved in all of these activities face a number of safety hazards, including but not limited to explosions, toxic and weather-related exposures, electrocutions, flash-fires, crushing injuries and falls, being struck or pinned by equipment, and transportation-related accidents. Moreover, as hydraulic fracturing and horizontal drilling practices have become more prevalent in West Virginia so has the potential for more severe personal injuries to workers. Additionally, these drilling and production and pipeline construction activities have coincided with an increase in associated congestion and accidents on rural roads.

In view of an increasing potential for workplace safety issues, Governor Tomblin determined it was timely and appropriate to review and assess the effectiveness of the federal and state laws and regulations associated with workplace safety in the oil and natural gas industry in West Virginia, including but not limited to the laws and regulations promulgated by the Occupational Safety and Health Administration, the United States Environmental Protection Agency, the United States Department of Transportation Pipeline and Hazardous Materials Safety Administration, and the West Virginia Office of Oil and Gas. He also decided it would be appropriate to review and assess the effectiveness of oil and natural gas industry best practices in West Virginia, so that these best practices may be revised and updated to better safeguard the health and safety of industry workers.

### **Issues Reviewed**

During its meetings, the Commission reviewed and considered a number of presentations on key topics related to safety regulations, practices and issues in the state's oil and natural gas industry, including:

- OSHA Oil and Gas Extraction Activities: Overview of Safety Hazards and Health Risks
- WVDEP Well Safety Plan Requirements
- Federal and State PSC Pipeline Regulations
- Training
  - OSHA Appalachian STEPS Network
  - WVU Health & Safety Training
  - NIOSH Training
- Company and Industry Best Practices
- Construction Trades Training

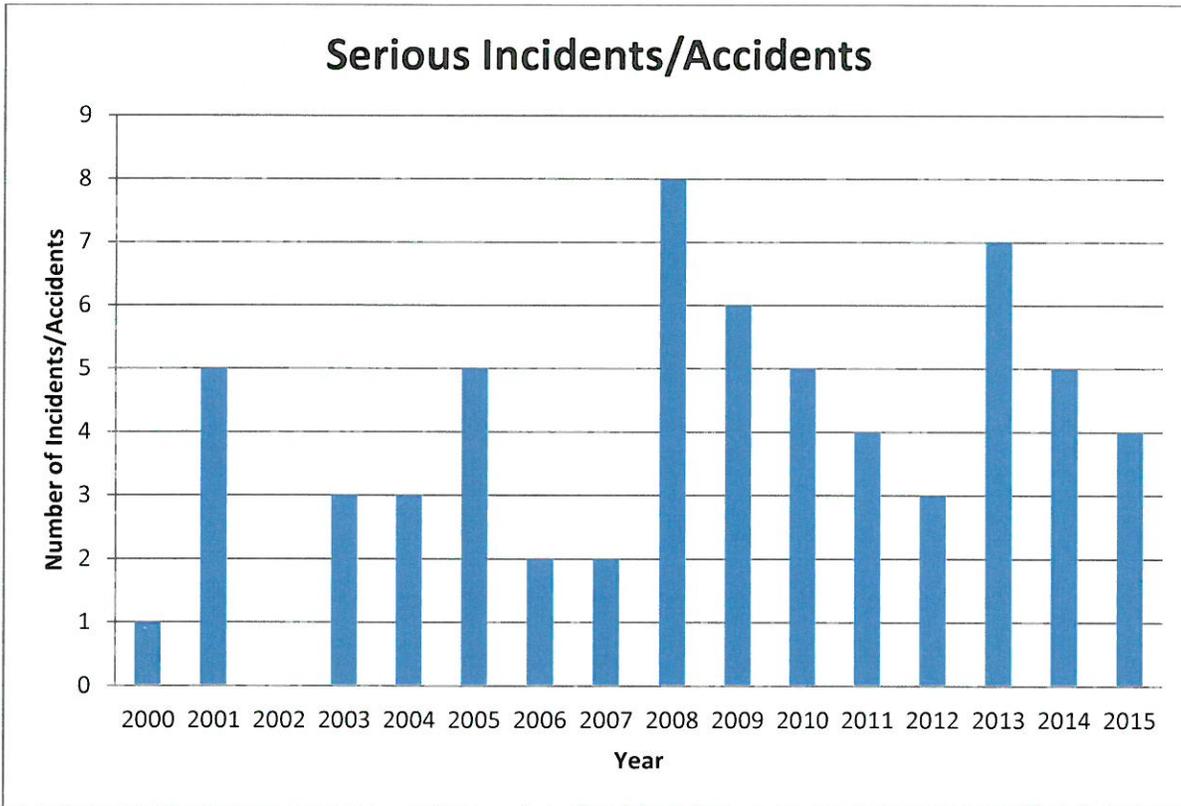
Links to these presentations and others presented to the Commission can be found at this web page: <http://www.governor.wv.gov/media/Pages/Announcements.aspx>.

### **Key Findings**

As in the case of other states, regulation and enforcement of worksite safety and health for the West Virginia oil and natural gas industry primarily is the responsibility of the U.S. Department of Labor Occupational Safety & Health Administration (OSHA). The West Virginia Department of Environmental

Protection has regulations related to well site safety plans for horizontal drilling activities, and the agency has responsibility to oversee and enforce environmental safety regulations. The state Public Service Commission has pipeline safety oversight responsibilities along with other federal agencies.

Based on data from the state's Office of Oil & Gas and by OSHA's West Virginia office, the commission heard that the 15-year average for serious incidents and accidents has remained relatively constant (4-5 a year), even in spite of the increase and added complexity of horizontal well production and pipeline activities. Provided is a graph showing data collected by the Office of Oil & Gas, W.Va. Department of Environmental Protection:



A West Virginia representative from OSHA also reported to the Commission that violations by the state's oil and natural gas industry in recent years have been decreasing, and that the "industry was doing a good job."

The OSHA representative also reported to the Commission that his agency changed its accident reporting requirements effective Jan. 1, 2015 such that "all employers must report all work-related fatalities within eight hours and all work-related inpatient hospitalizations, amputations or losses of an eye within 24 hours."

The commission heard from many state and federal agencies, industry groups and companies about the extent and type of worksite training and education programs being provided to the state's workers. In particular, the Office of Oil & Gas outlined its continued series of safety training programs, several of which are done in conjunction with OSHA (Appalachian STEPS Network). The state's two industry trade groups also provided information on their respective safety training and education programs. In addition, the National Institute for Occupational Safety & Health (NIOSH), located in Morgantown W.Va., highlighted various safety-related activities that the agency is planning related to the oil and natural gas sector:

- NIOSH is planning a three-year study/survey to examine safety and health issues and concerns within the land-based oil and natural gas extraction industry.
- NIOSH also has filed a draft of its “NIOSH Oil & Gas Sector Draft 2016-2025 Strategic Plan for Research & Prevention.” The stated purpose of this strategic plan is to define and prioritize occupational safety and health research and prevention activities for NIOSH in the oil & gas exploration and production industry through 2025, focusing on prevention of injuries, illnesses, and, fatalities. The plan’s research goals are to be organized in four areas (1) epidemiology & surveillance; (2) exposure assessment; (3) control technologies; & (4) communications. More information on the NIOSH Oil & Gas Sector Program is available at: <http://www.cdc.gov/niosh/programs/oilgas/default.html>.

Emergency responders also were invited to provide key insights to the Commission so the members could hear their perspectives about worksite safety issues in West Virginia. Representatives from state, county and local emergency responders participated in a panel discussion during the Commission’s September 16 meeting in Wheeling. The responders shared their unique viewpoints and offered a number of suggestions, which centered on having the industry build upon existing post-construction information-sharing and incident communication procedures. Several of those recommendations are incorporated into this Commission’s report.

### Conclusion

Accidents and incidents that occur as part of the activities of the state’s oil and natural gas industry receive almost immediate media and public attention. This is because this industry not only involves highly volatile and potentially dangerous substances but also because the profile of the industry has increased significantly in the past decade. Moreover, billions of dollars have been invested in new pipelines, processing plants and related infrastructure. This translates into increased scrutiny by the public, media and governmental entities on worksite safety.

The West Virginia Commission on Oil and Natural Gas Industry Safety conducted a comprehensive review of federal and state worksite safety regulations and programs and an examination of issues related to how to improve worker safety. The Commission determined that while existing regulations and best practices are helping to improve overall safety, more can and should be done. In particular, added safety practices and training would be beneficial. Commissioners agreed that education, training and prevention are the best approaches to ensuring a safe workplace.

Therefore, the Commission recommends the following pursuant to Governor Earl Ray Tomblin's Executive Order:

### Recommendations

- The Governor's Office should develop legislation to require that drilling and pipeline construction activities are subject to the state's 15-minute emergency notification law (WV Code 15-5B-3a (b)(1)). Provisions may apply to fires, explosions, and similar serious emergency events (confirmed emergencies) at drilling and pipeline construction sites. Provisions also should consider situations when gaps in communications present a challenge to meet the notification time limit.
- The Governor should propose legislation to expand 811 one-call mandatory membership requirements for natural gas and hazardous liquid pipelines, with mandatory membership based on certain pipeline diameter and pressure. Additional requirements should be evaluated for natural gas and hazardous liquids gathering lines within the boundaries of incorporated municipalities.
- Under the direction of the Governor's Office, the state should establish a database to track incidents and accidents at and associated with natural gas and hazardous liquid drilling and pipeline sites statewide. The state will monitor the database to look for trends that might require additional efforts to mitigate future issues. The W.Va. Division of Homeland Security & Emergency Management (WVDHSEM) also should map out, review and affirm "natural gas and hazardous liquid incident" notification/communications protocols within state government.
- WVDHSEM and the Public Service Commission of West Virginia (PSCWV) should conduct an evaluation of a web-based pipeline mapping system for access by the appropriate regulatory agencies and emergency responders (911 centers at the very least). Such a system should have limited access and robust security. As part of this, WVDHSEM and PSCWV should work with operators to determine a mutually acceptable reporting process and methods to populate and update the system. Appropriate pipeline emergency training should be developed for dispatchers.
- The PSCWV, in consultation with the WVDHSEM, should study and develop safety plan requirements on pipeline construction activities. These requirements should incorporate sufficient preplanning and notification requirements to enhance emergency response (county emergency managers or 911 centers).
- The West Virginia Fire Marshall should conduct an evaluation to assess the need (current and future) for fire/emergency responder training and equipment. Presently, county fire/emergency responders benefit from several sources, including voluntary support from oil and natural gas companies. Consideration of any new fee related to "fire service" for emergency responders should be done on a case-by-case basis at the local level.
- WVDEP and PSCWV should establish a requirement that safety/emergency contact information be posted at the nearest entrance from a public road or an access point leading to a drilling site or a pipeline construction location. This signage should contain certain information such as:
  - Oil and natural gas drilling - Signage and information should be of sufficient size to be easily visible and legible. The information should include the operator name, operator emergency contact number, pad name, DEP emergency (spill) notification number, physical address and the like.
  - Pipeline - Signage and information should be of sufficient size to be easily visible and legible. The information should include such things as the operator name, operator emergency contact number, name of access road or other geographic location information, DEP emergency (spill) notification number and the like.

- WVDEP should develop best practices, particularly for horizontal well activities, for the monitoring of natural gas, hydrocarbon vapors and other sources using properly calibrated equipment (gas monitors).
- The WV Fire Marshall should develop best practices on educating first responders about (now and future):
  - 1) their roles and responsibilities in the event of emergency event at horizontal drilling sites, pipelines or natural gas processing plants, and
  - 2) how companies will manage and fulfill fire control and suppression capabilities and practices.
- The West Virginia Department of Transportation (WVDOT) should develop recommendations on tracking technologies for trucks and proper training related to the delivery of refined, highly flammable liquids to rural sites that are unmanned.
- WVU Safety and Health Extension should work with stakeholders (i.e., Appalachian STEPS network) and examine the development of the following to enhance safety training and improve industry workplace safety:
  - Develop a central list of oil and natural gas safety training courses that serve as best practices and suggested training programs (OSHA 10-hour), and these resources should consider various tracks (i.e., site preparation, drilling, production, etc.);
  - Identify an agency to approve curriculum / verify quality of instruction;
  - Include an evaluation component to measure the true impact of the training program on worksite safety; and
  - Encourage the industry to have its employees, management and field workers at all levels knowledgeable of OSHA safety regulations and requirements.
- The Commission reviewed and affirmed that the state's existing blow-out prevention (BOP) regulations (in 35 CSR 8) and training/certification for well drilling personnel are appropriate as part of ensuring worksite safety.
- The W.Va. Department of Transportation should develop a collection point for industry-related traffic accidents with data to come from its divisions as well as from among law enforcement and the PSC.
- WVDOT should review existing federal regulations to determine whether additional best practices or requirements should be developed to ensure compliance related to 16-hour work periods (8 hours of downtime).
- WVDOT should recommend and provide oversee continual safety training and compliance with motor vehicle laws that focus on the use of seat belts and to refrain from distracted driving.
- The West Virginia Division of Highways should continue to work with the oil and natural gas industry through the Division's Oil and Gas Policy. The policy has resulted in the state's oil and natural gas industry contributing since 2011 \$49 million to 137 roadway projects. These projects were for various county routes located throughout 17 oil and natural gas producing counties in the State. These upgrades have resulted in improved safety for trucks and cars along these routes.
- The commission recommends the Governor should give consideration to legislation that would create a self-critical analysis privilege to encourage the state oil and natural gas industry to conduct meaningful internal safety reviews, both ongoing and post-incident. A significant deterrent to such in-depth analysis is the reality that they (e.g., communications, written reports or analysis) can be misconstrued and/or otherwise used against a company in litigation. Creating a self-critical analysis privilege, like the privilege

that exists presently under West Virginia law for health care peer review, would reduce these concerns and incentivize the industry to monitor its safety efforts and conduct detailed investigations regarding any safety-related incidents, which will promote worker health and compliance with statutory and regulatory requirements.

- The Commission recommends Governor Tomblin extend the term of the study group through 2016, with the commission convening in June and then December 2016 to receive status reports on completion of these recommendations.

#### **Appendices: Presentations and Reports**

Included as part of this report are the representations and reports provided to the Commission.