

detection of a leak, with drilling resuming only after casings are fully repaired and intact.

Additionally, some fracking chemicals are toxic. Full disclosure of the chemicals being used is now required in some areas. We believe open and honest disclosure decreases community concerns and encourages the substitution of less toxic alternatives whenever possible.

WASTEWATER

During drilling, several hundred thousand gallons of wastewater flow out of the wellhead and must be captured and disposed of. This water is often hauled to treatment plants slated for fracking wastewater disposal. These plants must be capable of handling and treating the waste to avoid contaminating sources of drinking water. This approach is preferable to the earlier practice of building large evaporation ponds near drilling sites.

COMMUNITY CONCERNS

Fracking has had a major impact on many communities (e.g., Williston, North Dakota). It has brought prosperity, but has also strained local services and infrastructure. It is important that resources are made available to help local and state governments cope with the impact on their communities. Opportunities to minimize drilling operations' impact on local communities include infrastructure improvements, housing accommodations for traveling workers and adding local enforcement staff to monitor environmental and safety regulations. The other common control to protect residents from the noise, traffic and pollution of drilling operations is to mandate a buffer zone from residential areas.

We believe that the health and safety risks from fracking can be avoided if the process is done responsibly. By enforcing responsible drilling rules and regulations, fracking's impact on the environment, workers and the local community will be minimized. The work can be done safely, bringing benefits to all parties involved and improving the health of the environment through a cleaner fossil fuel.



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Fracking (using high-pressure fluids to release oil and gas from shale rock) has expanded in the United States exponentially in the past few years. It has led to an abundance of domestic energy, a dramatic drop in oil and gas prices and thousands of jobs, both in drilling and building the pipelines that bring the oil and gas to market. As with any new technology, early fracking was largely unregulated.

As the industry has matured, a consensus has begun developing around what constitutes “responsible drilling,” which addresses and minimizes the risks associated with fracking. The Laborers’ International Union of North America (LIUNA) supports responsible drilling and believes strongly that fracking can be done both safely and responsibly in a manner that protects people living near fracking sites and the people doing the work. The responses below, which directly address



concerns about the safety of fracking for both workers and our environment, are based on a scientific review provided by the safety and health experts at the Laborers’ Health and Safety Fund of North America (LHSFNA).

CLIMATE CHANGE

LIUNA has members working in solar and wind installations as well as in energy retrofits and weatherization. Such efforts are bearing fruit, but will not significantly reduce our country’s need for other sources of energy over the next 20 years. In the interim, we will need to continue to rely on fossil fuels and nuclear energy as our major energy sources. Nuclear plants provide a significant portion of our energy, but few new plants are

being built and older ones are beginning to be decommissioned. Of all the fossil fuels currently available, natural gas, much of which comes from fracking, is the cleanest and cheapest fossil fuel source available. We believe natural gas is the best bridge to the renewable energy future. We have already seen the impact of the switch to natural gas on U.S. carbon emissions, which have been declining at a rapid rate. Natural gas must be part of the solution to climate change. Methane, a component of natural gas, can contribute significantly to climate change, but if leaks from natural gas production and transport are minimized, natural gas represents an important step forward from the use of dirtier fossil fuels.

WORKER SAFETY

One of the main hazards faced by workers is exposure to silica. High exposures well above OSHA limits have been demonstrated from the use of large amounts of sand in the fracking process. The industry has been working closely with the National Institute for Occupational Safety and Health (NIOSH) to develop better controls for these silica exposures. Enclosed conveyors and chutes can do a lot to control silica emissions. This has become a top priority for the industry, and we believe worker protection from high silica exposures is achievable.

In addition, there is rising concern about worker exposures to gas fumes in wastewater holding tanks and potential fire and explosive conditions during drilling. These concerns can be addressed through increased emphasis on worker safety and health planning and procedures.

The LHSFNA also provides a broad range of resources and occupational health and safety services to help our contractors protect their workers. LIUNA is able to provide a well-trained, skilled workforce through quality education and training delivered by a team of certified instructors at state-of-the art learning facilities. These workers are trained in safety and work procedures to protect themselves and the general public from hazards.

AIR POLLUTION

There is evidence that local communities may be exposed to air pollution from nearby fracking operations. The primary sources have been pollutants escaping from the wellhead and from waste (gas) flaring, the practice of burning off unusable natural gas through relief valves when infrastructure (pipeline and processing plants) is not in place. Some states (e.g., Ohio and Pennsylvania) regulate the amount of flaring allowed. Pollution controls at the wellhead (e.g., to capture methane leaks) have proven to be successful at reducing the amount of methane gas escaping from wells. Some states (e.g., Colorado) are now mandating wellhead controls and the Environmental Protection Agency (EPA) is now looking at requiring wellhead controls nationally.

Baseline monitoring of air and water before drilling starts (for comparison purposes), combined with continuous monitoring throughout the process, can alert operators and the community to any problems that may arise and ensure that their impact is minimized.

These controls can successfully address the concerns local residents may have in regard to elevated risks of air pollution.

WATER POLLUTION

Despite public concerns about fracking causing water pollution, a June 2015 EPA study found no evidence of “widespread, systemic impacts on drinking water resources in the United States.” During fracking, a mix of water, chemicals and sand is injected into the wellhead to hold the newly created cracks open and allow the gas to be extracted. When executed improperly, these fluids can leak from the well, causing contamination of groundwater or underwater aquifers. The primary source of contamination comes from leaks in well casings. These leaks can be prevented by better quality control and repaired if detected through monitoring. Casings must be repaired immediately upon