

What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Oil and Gas Extraction Safety and Health Program works with partners in industry, trade associations, professional organizations, academia, and labor. The program focuses on preventing worker injuries, illnesses, and fatalities in the oil and gas extraction industry, with an emphasis on:

- Reducing motor vehicle crashes;
- Reducing exposure to respirable crystalline silica during hydraulic fracturing; and
- Reducing hydrocarbon exposures during tank gauging operations.

What do we do?

- Conduct epidemiologic studies and surveillance to identify leading causes of death and injury.
- Characterize exposure to hazardous agents, such as chemical and minerals, to better understand the hazards and risks.
- Develop and test engineering controls in the workplace, such as the NIOSH Mini-Baghouse Retrofit Assembly.
- Investigate possible mechanisms of disease in oil and gas workers through laboratory research.
- Communicate and distribute information to raise awareness of hazards and promote NIOSH recommendations.

What have we accomplished?

- Identified risks for exposure to respirable crystalline silica during hydraulic fracturing. NIOSH researchers were the first to identify and characterize this hazard.
- Identified hazards associated with manually gauging oilfield tanks. In response, the American Petroleum Institute published a new safety standard that describes alternative methods for measuring crude oil. The Bureau of Land Management adopted this standard, and NIOSH recommendations, in their update of rules for oil measurement on Federal and Indian land. Now, oil and gas companies can more easily implement safer alternatives for gauging and sampling tanks.
- Published several high-impact hazard alerts for the oil and gas extraction industry through our National OSHA Alliance that includes NIOSH, OSHA, and the National STEPS Network.
- Patented the NIOSH Mini-Baghouse Retrofit Assembly (NMBRA). Conducted long-term field evaluation of the NMBRA, which helps to protect workers from harmful exposures during hydraulic fracturing.
- Published first annual report from the NIOSH Fatalities in Oil and Gas (FOG) database. FOG data are used to inform NIOSH, industry, and other stakeholder groups, and guide interventions that will prevent future loss of life.

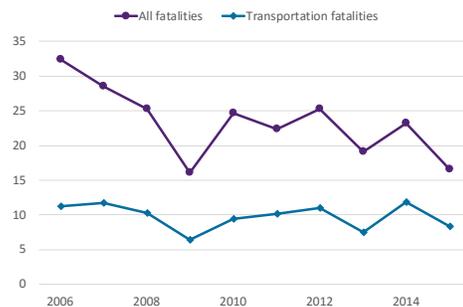
What's next?

- Identify and promote the adoption of relevant mining research, technologies, and products in the oil and gas extraction industry through the NIOSH Extractive Industries Initiative.
- Conduct exposure assessment research and evaluations of engineering controls to better understand hazard, risks, and controls for oil and gas extraction workers.
- Survey 500 oil and gas extraction workers to collect detailed safety and health information that will guide future work.
- Develop a video and other communication products describing the hazards of manual tank gauging and other well servicing operations to increase awareness of the hazards and reduce injuries, illnesses, and fatalities.
- Publish a report that describes characteristics associated with fatal fall injuries, which found the majority of falls were from a height of greater than 20 feet. Improper use of fall protection equipment was identified as a contributing factor.

At-A-Glance

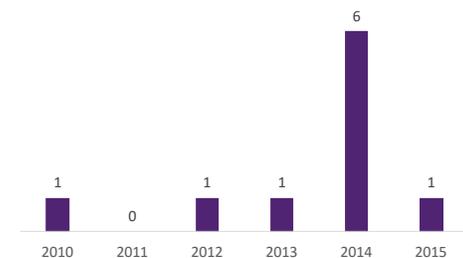
The Oil and Gas Extraction Program conducts research, partners with stakeholders, and develops and communicates workplace solutions to improve safety and health in the oil and gas extraction industry. This snapshot shows recent accomplishments and upcoming work.

Oil and gas extraction worker fatality rate (per 100,000 workers)



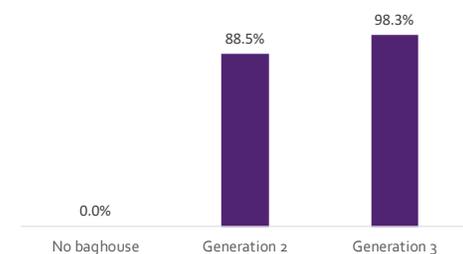
Source: U.S. Bureau of Labor Statistics

Number of oil and gas extraction worker deaths associated with hydrocarbon gases and vapors



Source: Fatalities in Oil and Gas (FOG) database

Reduction in respirable crystalline silica emissions by mini-baghouse control technology



Source: NIOSH [2015]. Field evaluation of a NIOSH mini-baghouse assembly for control of silica dust on sand movers. EPHB Report Nos. 373-11a and 373-12a.