

Oil and gas extraction

By Marvin V. Greene, associate editor

Land-based oil and gas extraction workers can be found in some of the more remote areas in America. An estimated 380,000 of them work in small teams with military-like precision, capturing natural resources that power vehicles and supply energy to homes and businesses.

The work is often rushed, dusty and dangerous, leading the industry – along with safety advocates, risk managers and regulators – into an urgent effort to reduce fatalities, injuries and illnesses.

“This is a hazardous industry. It’s outside. It’s high hazard. There are things that can happen, and there are things that do happen,” said Jeffrey S. Oakley, director of the Gulf Coast Safety Institute at the College of the Mainland. The Texas City, TX-based organization provides safety training to oil and gas workers.

Oakley described the industry as one in which “unknowns” can contribute to hazards. Equipment is often heavy, old and piecemeal; independent contract workers typically move in and out of the industry; working hours can be long and irregular; and worksites are most often set up in isolated areas.

From 2003 to 2006, 404 oil and gas extraction workers died on the job, according to an April 2008 analysis of fatalities by the Centers for Disease Control and Prevention. CDC undertook the study at the request of the Bureau of Labor Statistics, which noticed a 15 percent spike in

Top 10 most frequently cited OSHA standards – oil and gas extraction

Fiscal year 2008

STANDARD CITED	TOTAL VIOLATIONS
1. General Duty Clause (5a001)	112
2. Guarding Floor & Wall Openings & Holes (1910.23)	91
3. Hazard Communication (1910.1200)	75
4. Electrical – Wiring Methods (1910.305)	73
5. Medical Services & First Aid (1910.151)	64
6. Confined Spaces (1910.146)	55
7. Respiratory Protection (1910.134)	47
8. Personal Protective Equipment (1910.132)	45
9. Portable Fire Extinguishers (1910.157)	43
10. Mechanical Power Transmission Apparatus (1910.219)	39

Source: OSHA

fatalities among workers from 2003 to 2004.

CDC noted oil and gas drilling activity has grown rapidly over recent years, increasing from an average of 800 active drilling rigs in the United States during the 1990s to about 1,300 during 2003-2006. The agency concluded rises in extraction activity “were correlated with” the increased fatalities.

The industry’s fatality rate was 30.5 per 100,000 workers for 2003-2006 – about seven times the rate of 4.0 per 100,000 workers for all private industry, CDC reported. Texas recorded the highest number of oil and gas extraction occupational fatalities during 2003-2006 with 153, followed by Louisiana (49), Oklahoma (43), Wyoming (32) and New Mexico (22).

“This is a unique industry. They do unique work. There are many

companies that will have more contractors than they have employees themselves,” Oakley said.

Mirroring the uniqueness of the work is OSHA enforcement. Unlike other industries that have specified regulations, the most frequently cited violation of OSHA standards in oil and gas extraction is the catchall General Duty Clause. The Occupational Safety and Health Act instructs employers to furnish workplaces “free from recognized hazards that are causing, or are likely to cause, death or serious physical harm.” The agency used this provision to cite drilling companies with 112 violations during fiscal year 2008, which ended Sept. 30, 2008.

The CDC report noted that nearly half of the 404 fatal injuries during 2003-2006 involved highway motor

Fatal injuries among oil and gas extraction workers, 2003-2006

INJURY EVENT	FATAL INJURIES
Highway crash	110
Struck by object	88
Explosion	36
Fall to lower level	30
Fire	27
Caught in moving machinery/tools	26
Electric current	20
Aircraft crash	18
Other	49

Source: Bureau of Labor Statistics

vehicle crashes and workers being struck by machinery or equipment, accounting for 110 and 88 fatalities, respectively. Other significant events that resulted in fatalities included explosions, falls to lower levels and fires.

Although highway crashes are the most common fatal work-related event among all industries, CDC believes oil and gas extraction workers might be at a particular risk. According to the agency, vehicles used in the industry – often pickup trucks driven on unpaved, isolated rural roadways – are exempt from certain Department of Transportation hours-of-service regulations. The agency noted that oil and gas extraction workers typically drive eight- or 12-hour shifts, sometimes for seven to 14 consecutive days. “Unless changes are made to increase worker safety, the high fatality rates ... are likely to continue,” the report said.

In January, NIOSH produced two short video clips targeted at oil and gas extraction workers – one urging them to use fall protection when working at heights and the other urging seat belt use in moving motor vehicles. The videos feature workers

sharing personal stories and are designed for use in pre-shift or weekly safety meetings. NIOSH also has a program segment of the National Occupational Research Agenda that is addressing industry hazards.

Another effort currently underway is the Texas Mutual Oil & Gas Safety Roundtable, created by Texas Mutual Insurance Co., an Austin-based workers’ compensation insurance provider. The roundtable collaborates with OSHA, the Texas Oil & Gas Association, the Texas Department of Insurance and employer representatives to identify best practices for preventing accidents such as struck-by incidents. (The CDC report recommended increased use of mechanized tools to move and manipulate the heavy pipes workers use on the job.)

Bill Luther, a loss prevention consultant with Texas Mutual, said securing management accountability is vital to reducing incidents. “We’ve got to get the commitment and the buy-in from the top as well as the field people. Once we have that buy-in and commitment, then we think we’ll get an easier buy-in from the employees,” he said.

Luther added that the industry has to be clear about communicating risks to workers by analyzing and then

clearly articulating the hazards. “Safety cheerleading” that may work in industries with fixed worksites is less effective in oil and gas extraction, he said.

“You actually give them the good, the bad and the ugly of the job. You say, ‘This is the scope.’ You want them to all know the scope. You want them to all know the hazards. You want them to all know the protections. That’s more of a key than a tailgate or just saying, ‘Let’s be safe out there, guys,’” Luther said.

Joey Lucia, Luther’s supervisor at Texas Mutual, said oil and gas extraction is an industry guided, in large measure, by production activity as operators seek to capitalize on drilling sites before moving to other locations. Key to safety efforts is raising “awareness and consciousness” that production must work together with safety, he said.

“We preach to them all the time that safety needs to be a value within their companies, not a priority, because priorities change and that will change with production. We tell them that if safety is a core value, it will always be there no matter what the production is doing,” Lucia said. **S+H**

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