



Take your time — save your life

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Why are “struck-by” incidents so common in our industry?

Struck-by incidents are the leading causes of workplace fatalities in the oil and gas industry. Sadly, many of the victims might be alive today if they had simply taken their time, according to members of the oil and gas safety roundtable hosted by Texas Mutual Insurance Company.

Texas Mutual is the state's leading provider of workers' compensation insurance. The company launched the oil and gas roundtable in 2006 to help oil and gas workers stay safe and on the job. Roundtable representatives include the Occupational Safety and Health Administration, the Texas Oil and Gas Association, drilling contractors, location builders, lease service companies and several AESC members. In June, the group

met in Austin, Texas, to find out why struck-by incidents are so common in our industry.

A 2005 report published by the Society of Petroleum Engineers showed that struck-by incidents accounted for about 47 percent of all onshore exploration and production fatalities between 1997 and 2003. The breakdown of contributing causes was relatively even with 39 percent mechanical, 39 percent pressure and 22 percent dropped object.

More recently, the National Institute for Occupational Safety and Health published a study in the April 25, 2008, edition of *CDC Morbidity and Mortality*

Weekly Report. The study showed that struck-by injuries, not including highway crashes, remained the leading cause of fatality in the oil and gas industry between 2003 and 2006.

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Jim Barkley, a representative of the Occupational Safety and Health Consultation program, led the roundtable in an analysis of three recent struck-by drilling fatalities.

The group selected the cases based on available documentation and investigation details. Taking risks and rushing were the underlying factors in each case. More specific factors included the following:

Taking shortcuts. Each of the work teams was in a hurry and involved in operational tasks that were somewhat non-routine, such as remounting a wellhead, releasing a jammed Kelly from the wellhole and changing wireline tools while a chemical pumping vendor was working on site.

In the case of the wellhead remount, a near-miss accident occurred just before the fatal injury.

Safe procedures ignored or not in place. All three companies had safety and health programs in writing. The investigations showed that procedures for the particular jobs were not available or were ignored.

Lack of oversight or supervision. There was no operational oversight. Supervisors in all three cases had stepped away from the area momentarily, gotten on the phone or turned the operation over to a vendor or someone with insufficient experience.

No clear chain of command. Two of the three cases involved one or more vendors working on site. This led to ambiguity as to who was in charge, resulting in a lack of accountability and empowerment among the workers to stop the job and evaluate the situation.

Lack of communication among operators. One case involved a new employee. The other two involved operators who were working with vendors or who were not familiar with each other.

Lack of checking/testing safety devices. Two of the fatalities involved over-pressurization or inadequate connections to control pressure. Visual inspection to check for over-pressurization or improper fittings could have prevented the incidents.

Being in the wrong place at the wrong time. In two cases, the deceased employees were not directly involved in the operation. They were standing by, watching.

The problem of struck-by injuries

and fatalities in the oil and gas industry has persisted for more than a decade, with little or no improvement. If the three fatality examples and causal factors are representative of what really goes on in the workplace, simple preventive

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Get more information

More information on the studies referenced in this article is available online. Visit www.spe.org/elibrary/servlet/spepreview?id=SPE-94416-MS for "Upstream Onshore Oil and Gas Fatalities: A Review of OSHA's Database and Strategic Direction for Reducing Fatal Incidents," published by the Society of Petroleum Engineers. Visit www.cdc.gov/mmwr/preview/mmwrhtml/mm5716a3.htm for "Fatalities Among Oil and Gas Extraction Workers – United States, 2003–2006," published by the National Institute for Occupational Safety and Health. ☈

ABOUT THE AUTHOR: John Stephens is a board certified, safety professional and safety management consultant who has nearly 35 years of management experience in the petroleum and chemical industries. He has worked in research, manufacturing, safety, health and environmental management positions with DuPont and ConocoPhillips. During the past 10 years, Stephens worked in association with the American Petroleum Institute and other major oil and gas companies to develop industry publications related to safety management systems implementation, voluntary sustainability reporting and case study examples of cooperative partnerships between the industry and environmental, educational and community groups. Stephens was also instrumental in establishing the Petroleum Education Council, which provides safety training services for the industry.