

**EPA Science Advisory Board  
Hydraulic Fracturing Research Advisory Panel  
Public Teleconference December 3, 2015  
Oral Statement by Barbara Arrindell**

From: B. Arrindell  
Sent: Sunday, December 13, 2015 9:22 PM  
To: Docket OEI <Docket\_OEI@epa.gov>; Hanlon, Edward <Hanlon.Edward@epa.gov>;  
Subject: EPA Docket No. EPA-HQ-OA 2015-0245;Comments to SAB HF Study Panel 12-3-2015

Dear Mssrs. Hanlon and Frithsen, and Dr. Dzombak;

Attached is a slightly expanded copy of my oral comments presented to the Advisory Panel during December 3 conference call

I ask that this my comment be posted to the Panel's website and specifically sent to each member of the Panel, with the attached two pdf documents.

Thank you, and apologies for the delay in sending this.  
B. Arrindell

Dec 3 EPA SAB-HF meeting

B. Arrindell, Director, Damascus Citizens for Sustainability

Panel wants the three sites back in the study and there's no record of proceedings

We submitted a Freedom of Information Act request for notes taken or recordings made of the recent 3 day SAB-HF Study meeting. We got a call back from the SAB Deputy Director the next day - we were told there was no recording, even though the proceedings were live streamed with cameras, mikes, etc...and no official transcription.

...so this means that people make the effort to speak and you don't record what they present? AND the actual panel proceedings are not recorded? in any way?

The request of a nearly unanimous panel poll on Thursday afternoon had multiple witnesses and had media coverage - to remove the recognized as erroneous and not supported, headline of 'no widespread, systemic impacts' - this was adequately reflected in the draft report of the SAB meeting.

The following morning, Friday, another polling of the Panel occurred. This panel polling, though, was before 9 AM and there were few citizen witnesses, but there were some and a request was heard for consensus from Panel member Dr. Azra Tutuncu - asking that three deleted sites and all data and information available from the sites be put back in the study and then subsequent polling of the panel followed to near unanimous agreement. Mention of the three sites - Dimock, PA, Pavilion, WY and Parker County or West Texas - is reported on page 3 as putting a summary of them back into the study. THAT is not the same as putting the sites back into the study. On page 12, regarding public concern over these missing sites, that "...meaningful discussion of causes, conclusions and plans for remediation should be specifically discussed in the appropriate chapter. "And on page 30

“ Regarding other major findings that have not been brought forward, the Report should describe the interrelationships between HFWC and reported adverse impacts to private wells in Dimmock PA, West Texas and Pavillion WY. “ Is this the same as putting the sites back into the study? ...with all data and information available from the sites...The current record likely reflects Dr. Tutuncu's group's conclusion, but is so much more vague in its wording that it appears to be an inaccurate reflection.

Also submitted written testimony seem to be reviewed, mounted on the website and reviewed for the Panel. However oral statements including phone and in person are not captured or recorded. If the proceedings are not recorded,

documented, or transcribed in some way, how can oral comments remain part of the record? And the Panel's discussions should be available for future consideration, including for the Panel. Changes should be made to assure the integrity of the process.

I will be sending these and more comments via email so they may be given accurately to the panel members and others.

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Above content was delivered orally Dec 3 on the Conference Call - I am adding the following:

People who were testifying, especially with only oral comments should have been told that there would be no record of their statements unless written up and emailed, or whatever process would be required to record them. You do understand that there are legitimate citizens who do not have computers, so a hard copy mailing procedure should also be available.

Also listening to the panel discuss wording or what some one had said, knowing there is no recording was a puzzlement. I still do not understand why there was no recording and wonder if there may be a desire to change the way the discussions went or the Panel's consensus to meet some outside purpose as needed...could that be?

On one more topic, I would like to know if the oil/gas industry exemptions and the specific worker exemptions are a material part of discussions. They should be, in addition to the many industry documents that show the industry knew exactly the damage they would cause and their perceived need for relief of liability to maximize their profits and minimize their public and environmental responsibility.

**Attached with this comment** are two pdf documents - one on the larger gas/oil exemptions and another on the industry's exemptions from basic worker protections afforded workers in other industries. Links to them are

**The oil and gas industry's exemptions to major environmental laws**

[https://www.earthworksaction.org/files/publications/FS\\_LoopholesForPollutersNEW.pdf](https://www.earthworksaction.org/files/publications/FS_LoopholesForPollutersNEW.pdf)

and **OIL AND GAS: Drilling's safety exemptions and how they got there**

[http://www.eenews.net/special\\_reports/danger\\_zone/stories/1060008302](http://www.eenews.net/special_reports/danger_zone/stories/1060008302)

(The whole Danger Zone Series [http://www.eenews.net/special\\_reports/danger\\_zone](http://www.eenews.net/special_reports/danger_zone))

EPA Hydraulic Fracturing Study References from DCS is a collection of

necessary documents found at this link: [https://www.dropbox.com/sh/vfk5vbgovezgn9k/AADQbhdNAwAjgSNqaVDK\\_snZa?dl=0](https://www.dropbox.com/sh/vfk5vbgovezgn9k/AADQbhdNAwAjgSNqaVDK_snZa?dl=0)

You are urged to read these important and highly relevant references, many are peer reviewed or industry documents.

BELOW from the eeneews, Soraghan piece, **OIL AND GAS: Drilling's safety exemptions and how they got there:**

Oil and gas drilling sites are exempt from the following federal safety provisions:

**OSHA**

- Process safety management of highly hazardous and explosive chemicals.
- Includes provisions on welding and hydrogen sulfide.
- Benzene general exposure limit -- 1 ppm. The limit is 10 ppm at well sites.
- Noise rules -- oil and gas is exempt from monitoring and testing requirements.
- Lockout-tagout (requires that the power be cut to machines being serviced).

**EPA**

- Clean Air Act rules requiring a risk-management plan for sites with "extremely hazardous substances."
- Clean Water Act spill control provisions requiring chemical storage tank facilities to be fenced and locked.

**DOT**

- Drivers of vehicles used exclusively to service oil and gas wells are not required to count waiting time at the well site toward their on-duty hours for hours-of-service regulations.

-- *Mike Soraghan*

Thank you, COMMENTS submitted by

B. Arrindell

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# LOOPHOLES FOR POLLUTERS –

## The oil and gas industry's exemptions to major environmental laws

**Loopholes:** The oil and gas industry is exempt from key provisions of seven major federal environmental laws — allowing practices that would otherwise be illegal. Some exemptions date back decades. Others were adopted as recently as 2005.

While states and tribes have tried to fill the gaps with their own rules and regulations, they vary widely in effectiveness and enforcement. Federal laws provide consistent standards that equally protect all Americans. That's why it's essential to reverse these federal loopholes.

### 1. The Safe Drinking Water Act – SDWA

The Safe Drinking Water Act<sup>1</sup> (SDWA) of 1974 was established to protect America's drinking water. It covers waters actually or potentially designated for drinking, whether from above ground or underground sources.

The Energy Policy Act of 2005 exempted hydraulic fracturing (fracking) from SDWA<sup>2</sup> oversight, leaving drinking water sources in the 34 oil and gas producing unprotected from the host of toxic chemicals used during fracking. Congress qualified this exemption to regulate diesel fuel additives used during fracking, which requires industry to apply for a SDWA permit if they are using diesel fuel to hydraulically fracture a well.

### 2. The Clean Air Act – CAA

The Clean Air Act<sup>3</sup> (CAA), adopted in 1970, is the comprehensive federal law that regulates air emissions from area, stationary, and mobile pollution sources. The CAA established limits for major pollution sources called the National Emission Standards for Hazardous Air Pollutants (NEHAPS)<sup>4</sup>. NEHAPS must be met by installing the Maximum Achievable Control Technology (MACT) for each source.

Smaller sources of pollutants that are under common control by a single operator, are located in close proximity to each other, and perform similar functions are considered as one source of emissions. This aggregation allows for the CAA oversight of smaller sources that, when concentrated, may actually be as harmful as larger sources.

Unfortunately, the CAA exempts oil and gas wells, and in some instances pipeline compressors and pump stations, from aggregation. This exemption to the aggregation requirement allows the oil and gas industry—which often operates many small facilities in one area—to pollute the air while being largely unregulated under the CAA.

In addition, in 1991 hydrogen sulfide was removed from the list of Hazardous Air Pollutants under the CAA. This elimination has remained despite a 1993 EPA study, *Hydrogen Sulfide Air Emissions Associated with the Extraction of Oil and Natural Gas*, which clearly concludes that accidental releases of hydrogen sulfide during oil and gas development are a serious air quality concern and pose a great risk to public health. Common symptoms of exposure to low levels of hydrogen sulfide can include headache, skin complications, respiratory problems and system damage, confusion, verbal impairment, and memory loss.

### 3. Clean Water Act – CWA

Enacted in 1972, the Federal Water Pollution Control Act<sup>5</sup>, commonly known as the Clean Water Act (CWA), establishes the basic structure for regulating discharges of pollutants into the waters of the United States.

In 1987, Congress amended the CWA to require EPA to develop a permitting program for storm-water runoff — but exempted oil and gas production<sup>6</sup>.

The 2005 Energy Policy Act amended the CWA to redefine sediment as a nonpollutant. This redefinition broadened the existing exemption for storm-water discharges to oil and gas construction. These exemptions leave streams and rivers in high oil and gas areas unprotected from sediment run-off caused by the construction and operation of well pads, pipelines, drill rigs,



The oil and gas industry is exempt from key provisions of seven major federal environmental laws — allowing practices that would otherwise be illegal.

- ▶ READ OUR COMPLETE EXEMPTIONS WHITE PAPER <http://oilgas-exemptions.earthworksaction.org>
- ▶ MORE NEXT PAGE



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# LOOPHOLES FOR POLLUTERS –

## The oil and gas industry's exemptions to major environmental laws

### 4. Resource Conservation and Recovery Act – RCRA

Adopted in 1976, the Resource Conservation and Recovery Act<sup>7</sup> (RCRA) is the principal federal law that governs the disposal of solid and hazardous wastes. The law takes a “cradle to grave” approach to ensure that wastes are handled properly from the point of creation to transport to disposal.

In 1980, Congress exempted oil field wastes (which includes waste from natural gas production) from RCRA<sup>8</sup> until EPA proved they were a danger to human health and the environment. Rather than do so, EPA eventually ceded authority to regulate these wastes to the states.

This exemption leaves produced water, drilling fluids, and hydraulic fracturing fluids from oil and gas production unregulated under the nation’s premier hazardous waste law. This allows unsafe handling of toxic substances, including their conventional transport on roads and treatment in municipal rather than specialized facilities.

### 5. Comprehensive Environmental Response, Compensation, and Liability Act – CERCLA

Commonly known as the “Superfund” law, the Comprehensive Environmental Response, Compensation, and Liability Act<sup>9</sup> (CERCLA) of 1980 makes liable those responsible for a spill or release of a hazardous substance into the environment.

Included in the list of hazardous substances under CERCLA are benzene, toluene, ethylbenzene, and xylene (Btex)– chemicals found in crude oil and petroleum.

Yet CERCLA exempts these substances from liability requirements if they are found in crude oil and petroleum<sup>10</sup> (which are used in natural gas production). Thus, hazardous chemicals that would otherwise be regulated under CERCLA are immune from the statute. The definition of hazardous substance also excludes natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel.

In addition, Superfund allows “Potentially Responsible Parties” to be held liable for clean-up costs for a release or threatened release of a “hazardous substance.” But CERCLA defines this term to exclude oil and natural gas. Consequently, industry has little incentive to clean up its hazardous waste, or to minimize leaks and spills, in part because the exemption allows companies to escape liability when these problems occur.

### 6. National Environmental Policy Act – NEPA

The National Environmental Policy Act<sup>11</sup> (NEPA) of 1970 establishes the broad national framework for protecting our environment. NEPA’s ensures the federal government gives proper consideration to the environment before undertaking any major federal action (including involvement in industrial projects) that significantly affects the environment.

The Energy Policy Act of 2005 stripped NEPA’s strong requirements for public involvement and environmental review when it comes to several oil and gas related activities<sup>12</sup>. It stipulated that they should be analyzed and processed by the Interior and Agricultural Departments under a much narrower and weaker process known as a “categorical exclusion<sup>13</sup>” (CE), as opposed to the more comprehensive and stringent Environmental Assessment<sup>14</sup> (EA) or Environmental Impact Statement<sup>15</sup> (EIS) required under NEPA. In addition, a CE does not allow for any public comment. In 2006 and 2007, the BLM granted this exemption to about 25 percent of all oil and gas wells approved on public land<sup>16</sup> in the West.

### 7. The Toxic Release Inventory of EPCRA

The Toxic Release Inventory<sup>17</sup> (TRI) was created by section 313 of the Emergency Planning and Community Right-to-Know Act<sup>18</sup> (EPCRA) of 1986. It requires most industries to report significant of toxic substances to the EPA, which then aggregates and disseminates the information to the public.

The information on chemical use and release includes point and fugitive onsite air releases, water releases, on and off-site land releases, underground injection, transfers to a Publicly Owned Treatment Works (POTW) or waste management facility (including the name and address of the facility), and the use of specific on-site waste treatment and management practices.

But despite their use of toxic chemicals throughout production, oil and gas facilities are not required to report to the TRI<sup>19</sup>. This exemption leaves communities in oil and gas producing areas in the dark about what chemicals are being released—making it difficult to attribute responsibility and seek remedy for resulting health and environmental problems.

### Sources

- 1 <http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm>
- 2 <http://halliburton.earthworksaction.org/>
- 3 <http://www.epa.gov/air/caa/>
- 4 [http://cfpub.epa.gov/compliance/resources/policies/civil/caa/details.cfm?CAT\\_ID=&SUB\\_ID=92&templatePage=7&title=National%20Emissions%20Standards%20for%20Hazardous%20Air%20Pollutants%20\(NESHAPs\)](http://cfpub.epa.gov/compliance/resources/policies/civil/caa/details.cfm?CAT_ID=&SUB_ID=92&templatePage=7&title=National%20Emissions%20Standards%20for%20Hazardous%20Air%20Pollutants%20(NESHAPs))
- 5 [http://cfpub.epa.gov/npdes/cwa.cfm?program\\_id=45](http://cfpub.epa.gov/npdes/cwa.cfm?program_id=45)
- 6 <http://ncseonline.org/nle/crsereports/10Sep/97-290.pdf>
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- 19 <http://www.epa.gov/tri/lawsandregs/naic/ncodes.htm>

NOTE: this fact sheet is a synopsis of a more comprehensive white paper available at <http://oilgas-exemptions.earthworksaction.org>



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## OIL AND GAS:

### Drilling's safety exemptions and how they got there

Mike Soraghan, E&E reporter

EnergyWire: Tuesday, November 4, 2014

In 1983, troubled by the high death rate in the oil field, the Occupational Safety and Health Administration set out to impose a set of worker safety rules on drilling companies.

The effort backfired. As OSHA officials ushered the proposal through the process, they agreed to exempt drilling from other new rules on noise protection, machine safety and preventing explosions. Those topics, they said, would be covered in the pending oil and gas rulebook.

But when that proposal died, drilling companies wound up exempt from a suite of basic worker protections.

"It's mind-boggling to me how many safety standards they're exempt from," said Dennis Schmitz, a trainer who leads the MonDaks Safety Network, a group of safety officials from companies in the Bakken Shale region. "What's the culture that creates?"

In the 30 years since the drilling regulations were proposed, the industry's death rate regularly has been among the highest in the United States. Current and former OSHA officials say the exemptions and the absence of the drilling regulations left safety inspectors with fewer tools to police an industry heavy with "unique hazards."

#### SPECIAL SERIES



An investigation of the drilling industry's worker safety record and what it means for those living amid the boom. [Click here](#) to read the series.

And as petroleum production pushes into more populated areas, public health experts say the risks for those who live and work nearby remain poorly understood.

Industry leaders, though, say oil companies take safety seriously.

"We welcome strong regulation," American Petroleum Institute President Jack Gerard said last year after a speech on industry standards. "We resist duplicative, contradictory, confusing regulation. There's an important difference between the two in terms of our ability to operate."

That ability to operate was under threat in late 1983, according to industry leaders at the time.

OSHA, created in 1970, had originally tried to regulate oil and gas under its construction standards. But industry challenged that, and OSHA gave up on the idea after it lost a series of enforcement cases.

Still, fatalities were mounting. Records show there were at least 459 deaths at drilling work sites from 1977 to 1981, an average of 92 a year.

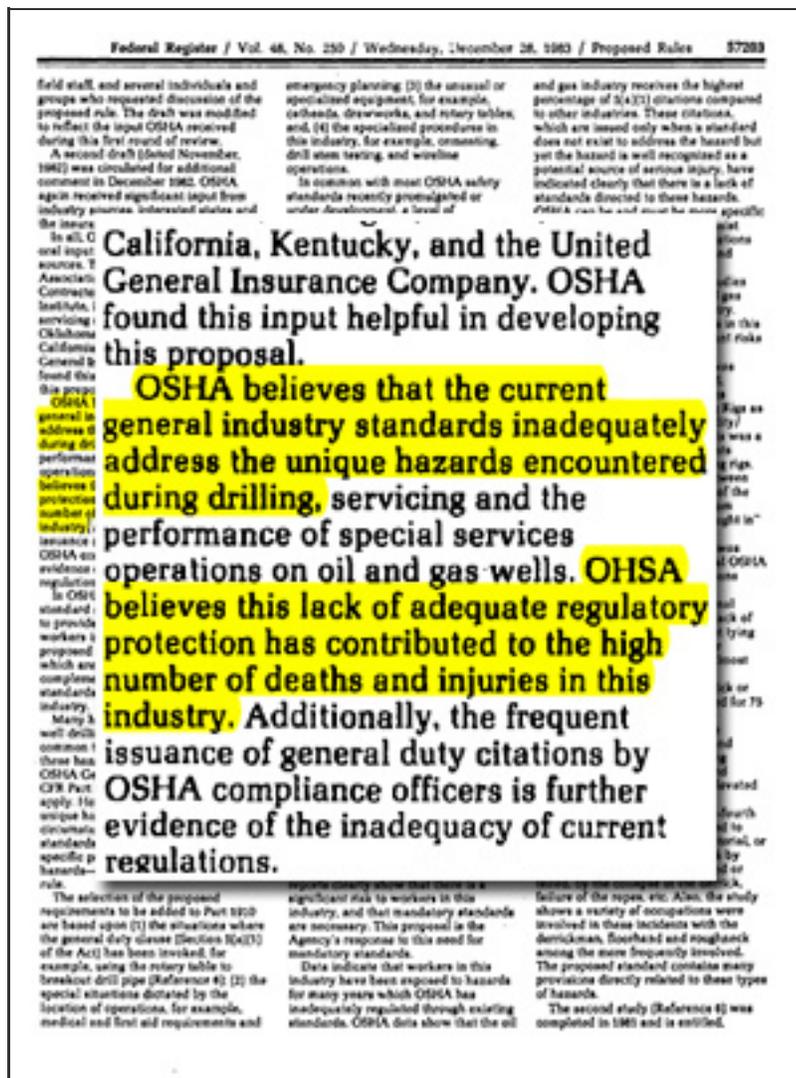
In the early '80s, OSHA began work on a new, separate set of rules, called a "standard," for oil and gas drilling. The rule was formally proposed in late 1983, during President Reagan's administration. In the *Federal Register* on Dec. 28, 1983, the agency laid out a stark rationale linking lack of regulation to worker deaths.

"OSHA believes that the current general industry standards inadequately address the unique hazards encountered during drilling," agency officials wrote. "OSHA believes this lack of adequate regulatory protection has contributed to the high number of deaths and injuries in this industry."

The drilling standard was to cover a wide variety of topics, from blowout preventers to hydraulic fracturing to how many employees had to be trained in first aid.

OSHA said at the time that some oil companies supported the proposal because they wanted a clear and consistent set of rules.

But industry lobby groups in Washington showed no such interest. They fought the rule hard even before it was formally proposed. They said it was too expensive. They preferred their own voluntary programs.



The Occupational Safety and Health Administration set out to impose a set of worker safety rules on drilling companies in 1983. To see the original *Federal Register* notice, click [here](#).

## What's a safe speed?

Not every industry has its own specific OSHA standard. The ones that do are construction, maritime and agriculture.

Without an industry-specific standard, OSHA continued to monitor oil and gas work sites using "general industry standards," purposely vague enough to cover everything from routine office work to climbing a rig tower in the middle of the night. Inspectors enforce the "general duty" of oil and gas companies to provide a safe workplace.

OSHA officials said in 1983 that regulating oil and gas under general industry standards worked badly. Current and former OSHA officials say it's still not a good fit.

One former OSHA official compared it to a police officer patrolling a highway without a set speed limit.

"The general duty clause is like saying, 'You should drive at a safe speed,'" said R. Dean Wingo, a former assistant regional administrator. "The duty shifts to the officer to show what you were doing was unsafe."

Wingo retired last year as assistant administrator for the Dallas-based region that includes the country's top oil-producing states. However unpopular they might be with management, he said, the agency's standards save lives and keep workers from getting hurt.

"If you look at OSHA's history, where they developed standards for an industry, it has impacted that industry to improve safety and health," he said.

## A 'powerful lobby'

There are OSHA standards that do cover work at well sites. Oil and gas crews, for example, must follow the standard covering electrical work. But industry is exempt from several standards other industries must follow. Most of those exemptions trace back to accommodations made while the drilling-specific standard was pending.

"It would require a number of major modifications to all rigs at a cost of millions of dollars for no real safety benefit," Roy Carlson, production director at the American Petroleum Institute, wrote to OSHA in February 1983. "We see little likelihood that the current draft would improve safety beyond voluntary programs already developed in the industry."

Some executives conceded that injuries had gone up during a drilling boom that started in 1979. But they said the industry was improving safety on its own.

"We agree that accident rates are high with respect to general industry, but it has not been established that rates are disproportionately high for the kind of work involved," H.B. Barton, regulatory affairs manager for Exxon Co. USA, wrote in May 1984. "Continual progress is being made toward reducing accident frequency as a direct result of efforts within the industry."

The industry resistance was effective. OSHA announced in 1985 that it would start over and rewrite the proposed rules. Officials in the Reagan White House said OSHA had understated the costs and said "extensive changes" were needed. After that, interest dwindled. But the proposal remained on the books through the administrations of Presidents George H.W. Bush and Clinton.

OSHA finally pulled the plug in 2001, in the early days of the George W. Bush administration.

Bush and then-Vice President Dick Cheney, both oilmen, led a drive to free domestic energy production from regulatory restraints. That drive led to, among other things, a ramp-up in drilling on federal lands in the Rocky Mountain West.

The first exemption was from "hearing conservation" rules that protect workers' hearing at loud sites.

"A combination of factors, including tremendous variation in working conditions, high mobility of operations, extremely high employee turnover rate, and limited accessibility of many worksites convinced OSHA that employees would be better served by developing a standard more specifically tailored to the needs of this industry," the agency wrote at the time.

There were noise protection provisions in the drilling-specific rules, but they fizzled along with the broader proposal.

The same decision was made on machine safety rules called "lockout-tagout" or "LOTO." The rules require machines to be turned off when being serviced so that people, or their limbs, don't get caught in them.

Inspectors can still cite oil and gas companies that don't employ lockout-tagout procedures. The American Petroleum Institute has a standard they're expected to follow.

In practice, though, Schmitz says the exemption creates a Catch-22. The oil companies that own the wells don't develop LOTO procedures for their equipment, because they're exempt. But most of the work is done by contractors. They're supposed to follow lockout-tagout, but frequently there are no procedures for the operators' equipment.

"The folks that are dying out there are contractors," said Schmitz, chairman of the MonDaks safety group of companies operating in Montana and North Dakota, and a regional manager and safety trainer for PEC Safety.

Explosions cause an unusually high number of deaths in the oil field ([EnergyWire](#), Oct. 20). OSHA's standard for preventing industrial explosions is called "Process Safety Management." The standard was enacted in the early 1990s after a series of deadly disasters at refineries and chemical plants. "PSM," as it's called, requires employers to put systems in place for dealing with highly hazardous chemicals.

In the realm of oil and gas, it requires increased scrutiny of hydrogen sulfide, one of the best-known killers in the oil field ([EnergyWire](#), Oct. 21). It also requires employees to follow set procedures before lighting a blowtorch and welding, the cause of many explosions in the oil and gas field.

As with the noise rules and lockout-tagout, drilling was exempted from PSM in anticipation of the industry-specific standard.

After wells are drilled and start flowing with oil or gas, they become production sites that fall under the PSM rules. But OSHA exempted most well sites because companies don't keep employees there, and they're considered "remote."

But remote means separate from a company's other operations, not distant from people. They can be close to subdivisions, houses and businesses and still be exempt.

"Urban drilling, I think, should require the regulatory agencies to take a hard look at public safety," Wingo said. "It really isn't [OSHA's] jurisdiction to address this issue, but no other government agency has stepped up to address these concerns."

Oil and gas is also exempt from OSHA's general standard on exposure to benzene, which can cause cancer. Under that standard, the limit for workers' exposure is 1 part per million. For oil and gas drilling, it is set at 10 ppm.

Oil and gas was exempted because exposure to the chemical was considered more likely to be a problem at refineries, Wingo said, not because of the planned drilling rules.

Some workers at well sites are getting exposed to troubling levels of benzene, according to the National Institute for Occupational Safety and Health. The agency reported last summer its researchers found that well site workers who measure tanks get exposed to levels of benzene higher than NIOSH-recommended limits, and high amounts of volatile organic

### Federal safety exemptions for oil and gas drilling

Oil and gas drilling sites are exempt from the following federal safety provisions:

#### OSHA

- Process safety management of highly hazardous and explosive chemicals.
- Includes provisions on welding and hydrogen sulfide.
- Benzene general exposure limit -- 1 ppm. The limit is 10 ppm at well sites.
- Noise rules -- oil and gas is exempt from monitoring and testing requirements.
- Lockout-tagout (requires that the power be cut to machines being serviced).

#### EPA

- Clean Air Act rules requiring a risk-management plan for sites with "extremely hazardous substances."
- Clean Water Act spill control provisions requiring chemical storage tank facilities to be fenced and locked.

#### DOT

- Drivers of vehicles used exclusively to service oil and gas wells are not required to count waiting time at the well site toward their on-duty hours for hours-of-service regulations.

-- Mike Soraghan

compounds (VOCs). And there are indications that several Bakken Shale workers might have been killed by VOCs at well sites ([EnergyWire](#), Oct. 27).

"The petroleum people have a very powerful lobby," said Mark Kaszniak, senior recommendation specialist with the U.S. Chemical Safety Board, an independent agency that has investigated numerous oil and gas accidents. "And they are particularly powerful in making sure the regulators give them exemptions in 'upstream' areas where they're getting the oil and gas directly out of the ground."

The oil and gas industry ranks sixth among industries for the amount it spends lobbying the federal government, according to OpenSecrets.org. Since 1998, companies have spent more than \$1.6 billion to lobby the federal government.

## **'You have a higher burden to prove'**

Eric Brooks navigates this maze of rules and exemptions every day.

From his neatly organized desk in downtown Bismarck, N.D., adorned in front with the Labor Department seal, he oversees workplace safety in one of the most dangerous places in the country for workers: the Bakken Shale.

Once an inspector here, he is now OSHA's area director for North and South Dakota. He has watched the shale drilling boom transform rural North Dakota into a major oil producer, boost employment and double the state's rate of worker deaths.

North Dakota had the highest fatality rate in the nation in 2012 (17.7 per 100,000 workers), according to an AFL-CIO report. That was five times the national average. The death rate for North Dakota's oil and gas production sector was 104 per 100,000 workers, more than 30 times the country's average fatality rate.

As the deaths mounted, OSHA's presence in the Dakotas shrank. In 2008, OSHA had seven inspectors in the Dakotas. Retirements, a federal pay freeze and soaring housing costs across the state combined to erode manpower. In 2012, Brooks said, there were four full-time inspectors and a trainee.

"That 2011 and 2012 was a trying time for everyone," Brooks said. "I think we're past that. I hope we're past that."

The number of inspectors has since risen to nine, and the agency is bringing in rotating teams for special enforcement sweeps. Fatalities declined in North Dakota last year.

But with the exemptions and the lack of a specialized standard for drilling, the inspectors Brooks does have face a host of hurdles.

Using the general duty clause, he said, makes it "exponentially" harder to bring a case.

Inspectors can't cite minor violations under general duty. Citations must be for "serious" hazards that would likely result in death or serious physical harm. In some cases, an inspector must get a Labor Department attorney to sign off before issuing a general duty citation. And for that attorney, general duty cases are more difficult to resolve, because the "serious" violations can't be bargained down in a settlement.

"It does take a lot more," Brooks said. "You have a higher burden to prove."

Still, in a safety sweep across the Bakken in the spring of 2013, inspectors cited violations in 50 percent of the wells they visited. Another group of inspectors, called a "health response team," is in the Bakken this week, Brooks said, "conducting focused inspections" at oil and gas sites.

But he said the heavy use of "general duty" violations is an indication the rules aren't keeping up, and haven't been for a long time.

Brooks keeps a yellowing copy of the *Federal Register* from Dec. 28, 1983, on the corner of his desk. He picks it up and reads the assessment of the drilling industry and OSHA's role in regulating it.

"OSHA believes that the current general industry standards inadequately address the unique hazards encountered during drilling," he says. "OSHA believes this lack of adequate regulatory protection has contributed to the high number of deaths and injuries in this industry." And he pauses.

"That's a great quote," Brooks says, "that still rings true today."



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