

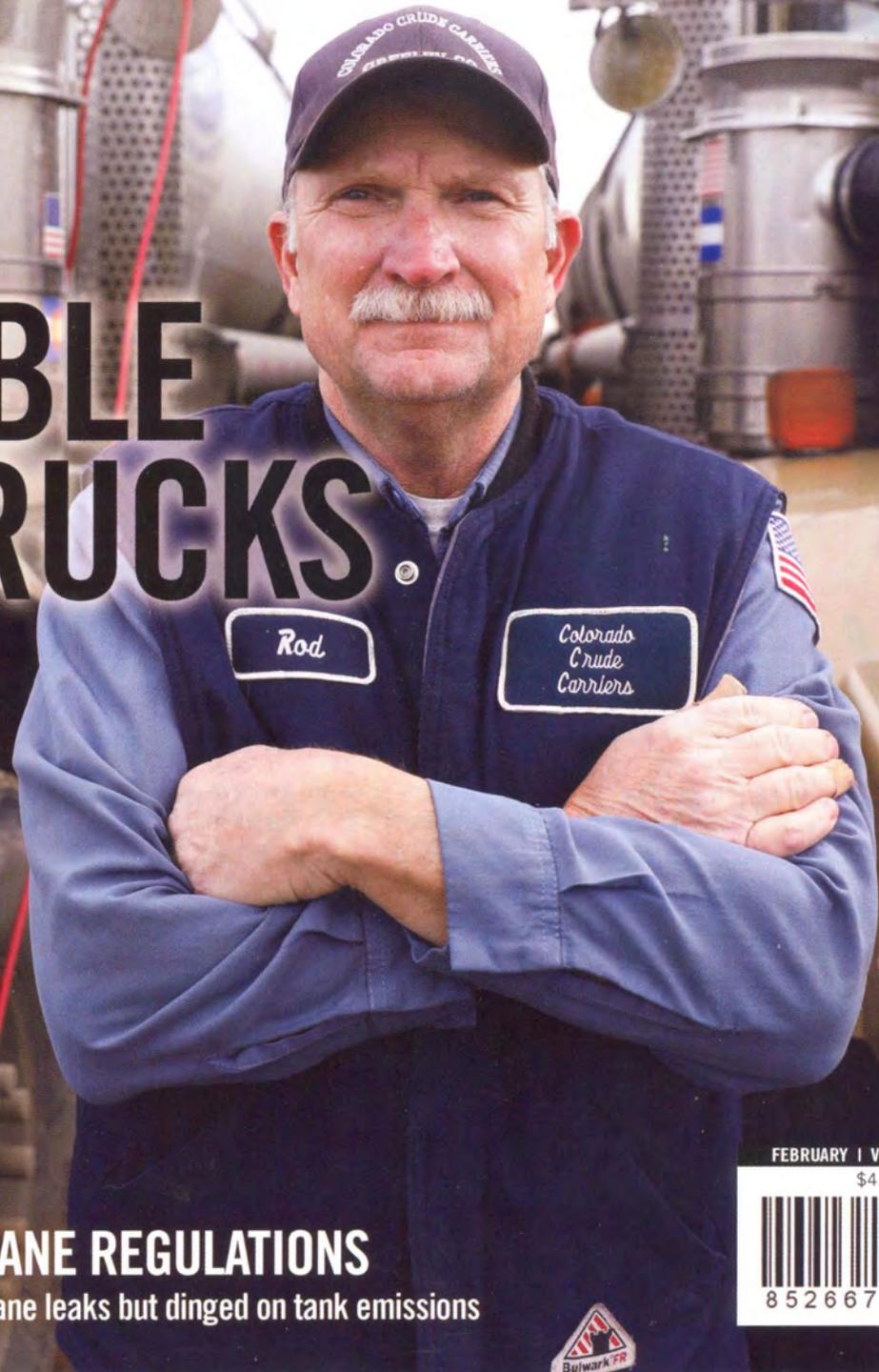


# ENERGY PIPELINE

COVERING THE ENERGY INDUSTRY IN THE ROCKY MOUNTAIN REGION

## The TROUBLE with TRUCKS

COGCC study suggests ways to reduce oilfield truck traffic



### COLORADO METHANE REGULATIONS

Companies moving on methane leaks but dinged on tank emissions

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# COLORADO METHANE REGULATIONS

Companies moving on methane leaks but dinged on tank emissions

BY DAN LARSON • FOR ENERGY PIPELINE



Jennifer Shea, manager of Health Safety and Environment for Anadarko Petroleum, looks for methane emissions at a production site. A year into Colorado's new rules to regulate methane emissions have some companies struggling to comply with rules that regulators and company men interpret differently. Photos for Energy Pipeline/Anadarko Petroleum.

**DURING THE FIRST YEAR IN EFFECT,** Colorado rules aimed at managing emissions at oil and natural gas facilities saw nearly a half million inspections at more than 18,700 production and processing facilities across the state.

Referred to as Reg 7, the rules were approved following a rigorous, five-day rulemaking session in February 2014.

The extensive revisions to the state's methane emissions control rules for oil & gas facilities were approved in an 8-1 vote by state's Air Quality Control Commission. The rules are intended to reduce hydrocarbon gas emissions that impact formation of ground-level ozone and to control methane emissions that contribute to climate change, according to official statements issued at the time.

State regulators and the industry agree rules aimed at finding and repairing leaks are effective in reducing emissions of methane and other gaseous hydrocarbons referred to as volatile organic compounds at well sites and processing facilities.

Controversy is brewing however, over state enforcement of rules covering gas emissions from oil storage tanks.

## LEAK VS. VENT

Over the past year, the Air Pollution Control Division (APCD) began enforcement actions against 10 companies operating in the DJ Basin. Although the state refers to them as Compliance Advisories, such actions can cost the operators tens of thousands of dollars or more to settle and are based on an interpretation of air regulations by the state that operators contend are impossible to comply with.

"The problem lies with how you define what is a leak and what is a vent," said an industry employee whose company is facing a compliance advisory following site visits by state inspectors.

"The state is saying that any emission you can see or hear is a defacto violation while we believe the rule says emissions are to be managed to the maximum extent practicable," said the industry employee who asked not to be identified.

Most violations cited in the advisories are for gas emissions from tank thief hatches and pressure relief valves. The latter are considered safety devices

that necessarily release gas to reduce a dangerous pressure build-up within storage tanks and other vessels at a well site.

Companies that receive compliance advisories are required to enter discussions with the state in which they can dispute alleged violations. But such discussions are actually "highly sensitive negotiations" that could cost the company hundreds of thousands of dollars, the employee said.

The APCD can enforce violations with permit revocations and fines up to \$15,000 per day, according to a review of the compliance advisories issued over a six-month period in 2015. The violations stem from state inspector site visits beginning in late 2013 through mid-2015.

## REASONABLY REQUIRED

Under the revised regulations, companies must develop formal plans for the control and ongoing monitoring of emissions from storage tanks.

A company's plan for Storage Tank Emission Management (STEM) must

include engineering designs, air pollution control equipment, and operational and monitoring practices for “control of VOC emissions and operate without venting emissions from the thief hatch or pressure relief device during normal operation unless venting is reasonably required for maintenance, gauging, or safety of personnel and equipment.”

Companies are not required to file their STEM plans with the state but must have them available for review at the division’s request.

“These control devices are actually safety devices designed to prevent catastrophic failure,” said the company environmental specialist who requested anonymity due to the sensitive nature of ongoing discussions with the division.

“Under certain conditions, (pressure relief valves) do emit because that’s what they are designed to do. It is very difficult to prevent them from venting at all. The difference between what is a leak and what is a vent was a major point of contention during the rulemaking; now it has become a major problem with the way the rule is interpreted,” the specialist said.

Despite the innocuous name, the APCD’s compliance advisories are in fact, enforcement actions, the specialist noted. These actions are based on “standards that are not quantitative and very difficult for us to comply with.”

Discussions to settle the compliance advisories with APCD continue, said Mark McMillan, stationary sources program manager with the Air Pollution Control Division. “We can’t share too much because they are active enforcement cases, but we are making good progress.”

McMillan also denied the state’s actions were a retroactive application of the rules. “Site inspections have been ongoing since well before the 2014 rulemaking,” McMillan said. “These emission regulations have been in place for a decade.”

Any new regulatory regime of the scope of Reg 7 can be expected to have a period of uncertainty, said Andrew Casper, director of legal and regulatory affairs at Colorado Oil & Gas Association.

“This was a big, comprehensive rulemaking,” Casper observed. “Overall, we have a good working relationship with the division. And, we continue to work collaboratively with them so we can avoid surprises and achieve a level of regulatory

certainty.”

Casper cites joint efforts by APCD and industry to develop guidance documents and host seminars aimed at helping companies bring their operations into compliance.

## FINDING AND FIXING

In contrast to the controversial

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COMPANY ENVIRONMENTAL SPECIALIST

enforcement of storage tank emissions, rules aimed at finding and fixing well site methane leaks are considered to

be reasonable and a success, even if compliance can be costly.

In November, APCD released its report on the extent of company inspections and repairs of the thousands of oil & gas sites across Colorado.

The report concluded the revisions to its Reg 7 Leak Detection and Repair (LDAR) rules “resulted in an increase in the identification and repair of leaks at production facilities and natural gas compressor stations.”

Those on the front lines of compliance agree that finding and fixing means lower emissions from oil and gas production and processing sites across the state.

“We are on right track,” said APCD’s McMillan.

“The goal of the Reg 7 rulemaking was to reduce emissions of methane and VOCs and their role in ozone formation. While we don’t have specific numbers yet in terms of tons per year reductions, we do know that good things happen when facilities are buttoned up,” he said.

The report shows the oil & gas industry has been active in addressing the huge number of components they operate. “That’s real action and positive sign,” McMillan noted. (See chart)

During the five-day hearings that ushered in Colorado’s first-in-the-nation rules aimed at methane emissions at oil & gas sites, the industry expressed concerns that monthly inspections of high-production sites was excessive and unneeded. Once found and fixed, most leaks do not return, they said. A proposal to allow operators to reduce the number of

## LEAK DETECTION & REPAIR REPORT 2015

	“Companies reporting”	“Facilities inspected”	“Total inspections”
	135	18,759	493,814
“Component type”	“Number of leaks”	“Leaks repaired”	“Delayed repair”
Valves	10,720		
Connectors	17,523		
Flanges	1,545		
Pump seals	1,511		
“Pressure relief devices”	4,741		
Total	36,044	35,494	501*

\*Some leaks identified were not repaired before the end of the year.  
Source: CDPHE “LDAR Annual Report 2015”

inspections over time was rejected by the commission during the 2014 rulemaking.

Overall, the LDAR program is working, COGA's Casper said. "By now, companies are seeing fewer leaks at their facilities."

## MODEL RULE

Colorado's LDAR program is considered the model for rule changes from the federal government that cover oil

EPA rules issued in the summer require semiannual inspections for all but the smallest producing wells.

The state's Supplemental Implementation Plan does take credit for the estimated 60 percent reduction of sources of gas emissions the EPA estimates that its LDAR program will achieve.

Colorado regulations clamping down on other sources of natural gas emissions at production sites have also helped reduce methane emissions over the past five years.

For its part, the EPA took the next step in regulating methane emissions from all onshore oil & gas production and processing facilities. In August 2015, the agency issued rules requiring operators to reduce methane and VOC emissions from new and recompleted wells. Its latest effort aims at clamping down on methane emissions from existing production facilities.

In November, EPA sent formal requests for information to all oil & gas companies operating in the US "to assist

in the development of comprehensive regulations to reduce methane emissions," said Gina McCarthy, Administrator of the EPA.

"New data show that methane emissions are substantially higher than we previously understood. So, it's time to take a closer look at regulating existing sources of methane emissions," McCarthy said.

On November 10, the agency began sending Information Collection Requests to nearly 20,000 companies operating hundreds of thousands of onshore oil & gas production, gathering, transmission,

pipeline and storage facilities across the country.

The two-part survey obligates operators to provide information on the number and types of equipment at all onshore oil and gas production facilities as well as "detailed information on emissions sources and emissions control devices or practices," according to an EPA fact sheet.

The agency's survey will inform federal regulators of the emission controls used in the field, how those controls are configured, whether electricity or generating capacity is available, and how often sites are visited.

Survey information is intended to help EPA "develop and apply standards to effectively reduce emissions from existing sources."

EPA estimates the industry will spend \$42 million responding to the survey. ♣



Anadarko Petroleum employees use a FLIR camera to monitor for methane emissions at a production site. Some companies operating in the Denver Julesburg Basin are struggling with differing interpretations of the rules.

and gas production and processing. The federal rule changes, issued in September 2015, were made to the EPA's Emission Standards for New and Modified Oil and Gas Sources, referred to as OOOOa, and its Control Techniques Guidelines (CTG) for existing sources.

Although the federal rules include LDAR requirements, they have not been finalized and include enough differences with Colorado's LDAR rules to prevent them from being included in a state ozone reduction plan that was proposed last summer.

For example, Colorado requires monthly inspections of larger sites using an optical gas imaging camera or less stringent "audio, visual and olfactory" inspections monthly for smaller sites.

Of those sources, one type of pneumatic controller has by now been nearly phased out.

Pneumatic controllers are widely used to automatically monitor production levels or to actuate valves. Changes made in a 2009 rulemaking prohibit a type of controller referred to as "high bleed" pneumatic from use at production sites in the ozone non-attainment region along the Front Range. Switching to intermittent controllers resulted in a 99.6 percent reduction of VOC emissions attributed to pneumatics, according to a July 2016 report from the Air Quality Control Commission.

## FEDERAL SURVEY