

Industry Insights: State air quality rules for oil and gas tightened, again

Dan Larson For Energy Pipeline January 26, 2018 Share (3) Tweet Comments (0)

Colorado's Front Range oil and natural gas operators in November were handed another set of revisions to the state's already stringent air quality rules when state regulators approved rulemaking that became effective with the New Year.

The rules include new requirements for compressors, pneumatic controllers and pumps, processing equipment at natural gas plants, and for managing fugitive emissions at the smallest wells along the Front Range.

On Nov. 16, 2017, the Air Quality Control Commission approved revisions to state rules that fall under Reg. 7, a key section of the state's oil and gas air pollution regulations. The revisions were necessary, the commission stated, for Colorado "to comply with federal rules and to improve ozone levels" within the Front Range ozone nonattainment area, which extends from north of Denver to northern Weld County.

Otherwise, the existing storage tank regulations that are already included in Colorado's ozone mitigation plan were deemed sufficient to meet federal tank emissions guidelines, AQCC declared.

Approval of the revisions marked another important step on the state's journey toward successful management of ozone pollution that will satisfy EPA requirements under the National Ambient Air Quality Standard.

State regulators were encouraged by improving ozone measurements during 2017 and expressed confidence that the state will meet a July 2018 deadline for compliance. If the positive trend continues, the state will seek approval of its plan for EPA to designate the Front Range as progressing from "moderate" to "marginal" for ozone.

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All Wells Inspected

The revisions now require some low-production wells that previously were tested only once and if no leaks were discovered, not tested again, must now be tested annually. Wells with slightly higher production that were previously inspected annually are to be checked twice a year. Larger wells are tested monthly.

Operators are now required to complete leak repairs within 30 days of discovery and to verify the repairs with an approved leak-detecting device such as an infrared camera.

Recordkeeping requirements now direct the operator to keep inspection and repair records for five years and that those records include how the leak was repaired, why a repair was delayed and when it is to be finished.

The AQCC also adopted revised statewide rules that go beyond the federal rules. For example, inspection requirements for gas-operated pneumatic controllers were tightened.

Otherwise, changes to equipment and operation rules were approved to bring the state into compliance with federal standards cited in Colorado's ozone plan, and are enforceable under federal law.

Emissions Reduced

As more companies expand the use of modern production management and the leak detection techniques that were largely brought about by sweeping changes in Colorado's oil and gas air regulations four years ago, emissions of three out of six criteria air pollutants that are often attributed to oil and gas production continue to show significant decreases.

Eighteen months ago, an industry report to the state detailed the effectiveness of inspections and new technology installed to reduce emissions. The report showed that from 2011 to 2017, emissions of hydrocarbons declined by 45 percent, nitric oxide emissions declined by 27 percent and carbon monoxide by 18 percent.

"Emissions from oil and gas decreased even as production quadrupled," stated Dan Haley, president of Colorado Oil and Gas Association.

The industry has pledged to continue working with the state and environmental groups to find more ways to reduce air emissions from oil and gas operations.

The latest rulemaking shows that industry can work collaboratively with environmental interests to improve air quality, Haley said. Industry representatives have worked with the Environmental Defense Fund since before the historic AQCC rulemaking session four years ago.

"As a result of this engagement and the industry's efforts to continuously improve its environment and air quality performance, Colorado has the most technologically advanced, strictly regulated, and well-controlled operations anywhere in the country.

We are very proud of that fact," Haley concluded.

Emissions Milestone

In February 2014, the AQCC, in a grueling five-day session, rolled through an important milestone when it passed far-reaching revisions to the state's air emissions rules for the oil and gas industry.

Intended to capture 95 percent of wellsite emissions, the 2014 revisions added a Leak Detection and Repair (LDAR) regimen for storage tanks and facilities, required operators to implement Storage Tank Emissions Management (STEM) procedures, lowered emissions thresholds for small volume wells, and required new natural gas wells be tied into pipeline systems from date of first production.

For the first time, operators were required to inspect each wellsite and facility for leakage of methane and other volatile organic compounds (VOCs), which are typically heavier hydrocarbons such as butane or propane. The inspection and recordkeeping rules were more stringent for larger producing wells leaving the smallest producers exempt from regular inspections. That was changed in the most recent rulemaking.

In the first year the revised rules were on the books, 135 companies reported they conducted nearly 500,000 site inspections and repaired more than 35,000 leaks, according to data compiled by the Colorado Department of Public Health and Environment.

Blowdown Venting

Among other revisions to oil and gas air emissions rules in 2014 were specific best management practices for wellbore liquid unloading and downhole maintenance activities.

Under the revised Reg. 7 Sec. 17-H, emissions vented during wellbore unloading and maintenance activities were to be managed. These rules specify that the operator or designated contractor document those steps taken during liquid unloading, often referred to as blowdowns, or any planned downhole maintenance activities, to limit venting of emissions.

The object of the rule, according to CDPHE, is to ensure operators are using best practices "to minimize the need for well venting other than where required to protect worker safety." In such instances, the operator is required to document why best practices could not be used to safely unload liquids from the wellbore.

Well blowdowns were, at the time, estimated to be responsible for one-third of all

uncontrolled methane emissions from natural gas wells across the country, according to the department.

Under EPA's Natural Gas STAR program, which according to CDPHE provides operators with best practice models, operators are encouraged to use plunger lift systems to reduce the need to unload liquids and help minimize venting.

Technology and practices to minimize venting such as plunger lifts are available and economical, the department said. "Such systems may pay for themselves in about one year," it noted.

Dan Larson is a Colorado journalist and PR pro. He has three decades experience in the oil and gas industry as a communications specialist. Working industry segments upstream and down, Dan led marketing programs, neighbor discussions, community development and contribution programs, and crisis response efforts. Lately, he is writing for Energy Pipeline, online news services and trade magazines serving the energy and automotive industries. Visit Dan's website at <http://www.larson-comms.com>.