



Revisions to Colorado Air Quality Control Commission's Regulation Numbers 3, 6, and 7 Fact Sheet

Rulemaking Summary:

On February 23, 2014, Colorado's Air Quality Control Commission ("Commission") fully adopted EPA's Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution found in 40 C.F.R. Part 60, Subpart OOOO ("NSPS OOOO") into Regulation Number 6, Part A; adopted corresponding revisions to its emissions reporting and permitting framework in Regulation Number 3, Parts A, B, and C; and adopted complementary oil and gas control measures in Regulation Number 7. This rulemaking was the culmination of the Commission's October 2012, directive to consider full adoption of EPA's NSPS OOOO. These oil and gas control measures revisions focus on identifying and repairing leaks in the oil and gas sector, but also contain some recordkeeping and reporting requirements. This rulemaking received support from environmental groups and some companies within the oil and gas industry. In addition to extensive VOC reductions, the Regulation Number 7 revisions also regulate methane emissions from the oil and gas industry.

These oil and gas control measures are estimated to reduce VOC emissions by approximately 93,500 tons per year and methane/ethane emissions by approximately 65,000 tons per year, at a cost of approximately \$42.5 million per year.

Discussion of Revisions:

Regulation Number 3

- The revisions remove the so-called catchall provisions from Part A., Section II.D.1., and Part B, Sections II.A.5. and II.D. Sources subject to a federal New Source Performance Standard ("NSPS") or National Emission Standard for Hazardous Air Pollutants ("NESHAP") incorporated into Regulation Numbers 6 or 8 are no longer subject to reporting and permitting solely due to being subject to that NSPS or NESHAP. These sources now only trigger reporting and permitting if the source's emissions exceed the reporting and permitting thresholds.
- The revisions set a 250 lb/year reporting threshold for non-criteria reportable pollutants, replacing the complex matrix in Part A, Appendix A.
- The revisions remove the crude oil storage tank permitting exemptions in Part B, Section II.D.1.n., and Part C, Section II.E.3.ddd., and correct an error in the crude oil truck loading equipment permitting exemption in Part B, Section II.D.1.l.

Regulation Number 6, Part A

- The revisions fully adopt NSPS OOOO.

Regulation Number 7, Sections II., XVII., and XVIII.

Revisions regulate hydrocarbon emissions from oil and gas on a state-only, state-wide basis.

General Provisions (Section XVII.B.)

- The revisions expand the requirement to use good air pollution control practices to minimize hydrocarbon emissions from hydrocarbon liquid collection, storage, processing, and handling.
- The revisions expand the requirement to use auto-igniters. Combustion devices installed on or after May 1, 2014, must utilize an auto-igniter upon installation. Combustion devices installed before May 1, 2014, must utilize auto-igniters beginning May 1, 2016.



Revisions to Colorado Air Quality Control Commission's Regulation Numbers 3, 6, and 7 Fact Sheet

- Beginning January 1, 2015, the revisions require that open-ended valves or lines be sealed or become subject to leak detection and repair (“LDAR”) requirements, centrifugal compressors reduce hydrocarbon emissions by 95%, and reciprocating compressors at natural gas compressor stations replace rod packing every 26,000 hours of operation or every 36 months.
- The revisions also require storage tanks to comply with both applicable federal control requirements (NSPS OOOO) and Regulation Number 7, Section XVII. The revisions similarly require glycol natural gas dehydrators and internal combustion engines to comply with both applicable federal control requirements and Regulation Number 7, Section XVII.F. leak detection and repair requirements.

Storage Tanks (Section XVII.C.)

- The revisions require storage tanks with uncontrolled actual VOC emissions ≥ 6 tons per year (“tpy”) to control hydrocarbon emissions by 95% (and if using a combustion device, the device must be designed to achieve 98% control). The revisions require all storage tanks, except temporary frac tanks, utilized during the first 90 days of production to control emissions by 95% (and similarly meet a 98% design control efficiency) unless projected emissions during those 90 days are < 1.5 tons.
 - The revisions require controlled tanks to conduct audio, visual and olfactory (“AVO”) and additional visual inspections at the frequency of liquids loadout (not more than every 7 days, and at least every 31 days).
 - The revisions require controlled tanks to operate without venting during normal operation.
- The revisions require storage tanks subject to system-wide controls in Section XII.D.2., and storage tanks with VOC emissions ≥ 6 tpy to develop and employ Storage Tank Emission Management (“STEM”) plans to meet the “operate without venting” standard, which includes Approved Instrument Monitoring Method (“AIMM”) inspections. Storage tanks constructed on or after May 1, 2014, must comply with STEM and implement AIMM inspections within 90 days after the storage tank commences operation, or within 30 days of the phase-in schedule for facilities subject to monthly AIMM, and thereafter in accordance with Table 1. Storage tanks constructed before May 1, 2014, must comply with STEM by May 1, 2015, and implement AIMM inspections within 90 days of the phase-in schedule in Table 1.

Table 1 – Storage Tank Inspections		
Threshold: Storage Tank Uncontrolled Actual VOC Emissions (tpy)	Approved Instrument Monitoring Method Inspection Frequency	Phase-In Schedule
≥ 6 and ≤ 12	Annually	January 1, 2016
> 12 and ≤ 50	Quarterly	July 1, 2015
> 50	Monthly	January 1, 2015

- The revisions do not require AVO/visual inspections or AIMM inspections where it is unsafe, difficult, or inaccessible to monitor.
- The revisions require STEM records be made available to the Division upon request. The revisions also require monitoring records be kept for 2 years and also be made available to the Division.
- The revisions do not require storage tank reporting.



Revisions to Colorado Air Quality Control Commission's Regulation Numbers 3, 6, and 7 Fact Sheet

Glycol Natural Gas Dehydrators (Section XVII.D.)

- The revisions require glycol natural gas dehydrators constructed on or after May 1, 2015, with uncontrolled actual VOC emissions greater than 2 tpy, to control emissions by 95% (and if using combustion device, the device must be designed to achieve 98% control). The revisions require glycol natural gas dehydrators constructed before May 1, 2015, with VOC emissions greater than 6 tpy, or 2 tpy if located within 1,320 feet of a building unit or designated outside activity area, to control by 95% (and similarly meet a 98% design control efficiency).

LDAR (Section XVII.F.)

- The revisions require owners/operators to inspect components at natural gas compressor stations and well production facilities for leaks.
 - Natural gas compressor stations must be inspected beginning January 1, 2015. The frequency of inspections is based on fugitive VOC emissions, calculated using Table 2-4 of the 1995 EPA Protocol for Equipment Leak Emission Estimates, as provided in Table 3.

Fugitive VOC Emissions (tpy)	Inspection Frequency
> 0 and ≤ 12	Annually
> 12 and ≤ 50	Quarterly
> 50	Monthly

- Well production facilities constructed on or after October 15, 2014, must be inspected 15-30 days after the facility commences operation, and thereafter in accordance with Table 4. Well production facilities constructed before October 15, 2014, must be inspected within 90 days of the phase-in schedule in Table 4, or within 30 days of the phase-in schedule for facilities subject to monthly AIMM, and also thereafter in accordance with the frequencies in Table 4. The frequency of inspections is based on the uncontrolled actual VOC emissions from the highest emitting storage tank, or the total controlled actual VOC emissions from all permanent equipment and components for well production facilities without oil or condensate storage tanks.

Thresholds (per XVII.F.4.c.)		Approved Instrument Monitoring Method Inspection Frequency	AVO Inspection Frequency	Phase-In Schedule
Well production facilities without storage tanks (tpy)	Well production facilities with storage tanks (tpy)			
> 0 and ≤ 6	> 0 and ≤ 6	One time	Monthly	January 1, 2016
> 6 and ≤ 12	> 6 and ≤ 12	Annually	Monthly	January 1, 2016
> 12 and ≤ 20	> 12 and ≤ 50	Quarterly	Monthly	January 1, 2015
> 20	> 50	Monthly		January 1, 2015

- The revisions do not require AVO or AIMM inspections for components that are unsafe, difficult, or inaccessible to monitor.



Revisions to Colorado Air Quality Control Commission's Regulation Numbers 3, 6, and 7 Fact Sheet

- The revisions set different thresholds for leaks requiring repair based on the method used to detect the leak. The leak thresholds do not apply to leaks associated with normal equipment operation, such as pneumatic device actuation and crank case ventilation. The leak threshold for leaks detected with an IR camera or AVO is any detectable emission. The leak thresholds for leaks detected with EPA Reference Method 21 are:
 - > 2,000 ppm hydrocarbons for compressor stations constructed before May 1, 2014;
 - > 500 ppm for well production facilities constructed before May 1, 2014; and
 - > 500 ppm for compressor stations and well production facilities constructed on or after May 1, 2014.
 - Leaks detected using AIMM or AVO may be remonitored with EPA Method 21 prior to repair for comparison to the leak thresholds specified for EPA Method 21 monitoring.
- The revisions require a first attempt to repair within 5 days, unless parts are unavailable, shutdown is required, or for other good cause, and remonitoring within 15 days of repair.
- The revisions require LDAR records be kept for 2 years, and made available to the Division.
- The revisions require an annual LDAR report be submitted to the Division by every May 31.

Well Operation

- Beginning August 1, 2014, the revisions require gas from newly constructed, hydraulically fractured, or recompleted wells be routed to a gas gathering line or controlled by 95% (and if using combustion device, the device must be designed to achieve 98% control).

Well Maintenance and Liquids Unloading

- Beginning May 1, 2014, the revisions require best management practices to minimize hydrocarbon emissions and the need for well venting during well maintenance and liquids unloading. The revisions also require records be kept for 2 years, and made available to the Division upon request.

Pneumatic Controllers

- The revisions expand the low-bleed pneumatic controller requirement statewide, beginning May 1, 2014. The revisions also require no-bleed pneumatic controllers where on-site electrical grid power is used and the no-bleed pneumatic controller is technically and economically feasible.

For More Information:

Revisions to Regulation Number 3 (5 CCR 1001-5), Regulation Number 6 (5 CCR 1001-8) and Regulation Number 7 (5 CCR 1001-9) will become effective on upon publication by Colorado's Secretary of State, and will be posted at: <https://www.sos.state.co.us/CCR/Welcome.do>

Implementation tools, guidance and other compliance assistance tools are currently being developed and will be posted on the Division's website at: <http://www.colorado.gov/cdphe/airoilandgas>

Finally, please submit questions or comments to: cdphe.commentsapcd@state.co.us