



Important EPA Regulations for Natural Gas Well Completions

By Kyle R. Hagen, P.E./March 2013

On October 15, 2012, EPA finalized the New Source Performance Standards (NSPS) found in 40 CFR 60 Subpart 0000 to control emissions of volatile organic compounds (VOCs) and sulfur dioxide (SO₂) from processes and equipment at natural gas well operations. One of the more significant requirements that EPA has included in the rule is the use of reduced emission completions (RECs) following fracturing or refracturing natural gas wells. RECs are well completions following fracturing or refracturing where the high-rate gas flowback is captured, cleaned by separating gas from solids and liquids and the separated materials either routed to the flow line or collection system such as storage vessels, re-injected into the well or another well, used as an on-site fuel source or used for another purpose where a purchased fuel or raw material would be used as long as there is no direct release of the gas flowback into the atmosphere. These new rule apply to natural gas well completions on both new hydraulically fractured wells and hydraulically refractured natural gas wells. There is also considerable detail on required notification, recordkeeping and reporting. As with many regulations under the Clean Air Act, they are neither easy nor fun to read and understand. The facilities must meet the 40 CFR 60 Subpart 0000 rule requirements but are exempted from permitting requirements

unless specifically required by the state, other EPA NSPS and NESHAPs regulations or unless they are already a permitted source.

Well Completions for New Hydraulically Fractured Natural Gas Wells

Wells drilled after August 23, 2011 are considered to be the new hydraulically fractured gas wells. The new NSPS rules apply to each well completion in a phased approach to allow operators time to meet compliance dates in the NSPS.

Phase 1: For each well completion operation with **hydraulic fracturing begun prior to January 1, 2015**, the owners or operators must reduce VOC emissions using a completion combustion device except when combustion presents a safety hazard, would negatively impact permafrost or waterways or is prohibited by more stringent state or local regulations. However, you are allowed to capture the gas using reduced emission completions (RECs) with a completion combustion device. The completion combustion devices may be used until January 1, 2015.

Phase 2: For each well completion operation with **hydraulic**

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fracturing beginning on January 1, 2015, operators must capture the gas using RECs or some other alternative completion and make it available for use or sale unless flowback emissions cannot be directed to the flow line. If flowback emissions cannot be directed to the flow line, then control of the emissions from the REC using a completion combustion device is allowed to reduce the VOC emissions.

Note that the RECs discussed in the phased approach will not be required for wildcat or delineation wells since they are not located near a pipeline to bring the gas to market. In addition, the phased approach would not be required for non-wildcat/non-delineation low pressure gas wells.

Well Completions for Refractured Natural Gas Wells

Hydraulically refractured natural gas wells constructed on or prior to August 23, 2011 will not be considered to be “modified or reconstructed” under this rule if the well owners or operators use RECs, make the gas available for use or sale unless flowback emissions cannot be directed to the flow line. If flowback emissions cannot be directed to the flow line, the gas emissions from the REC can be controlled using a completion

combustion device except when combustion presents a safety hazard, would negatively impact permafrost or waterways or is prohibited by more stringent state or local regulations. This exemption may be beneficial in some states since it would not trigger state permitting requirements.

Refractured natural gas wells that do not use RECs will be considered “modified” and subject to the rule as well as those wells initially constructed after August 23, 2011. These wells will be allowed to use completion combustion devices until January 1, 2015, when they must begin using RECs on their hydraulically refractured natural gas wells.

Notification and Reporting Requirements for Fractured or Refractured Natural Gas Well Completions

For the hydraulically fractured and refractured natural gas wells, the owners or operators must submit a notification to EPA no later than two (2) days before completion work begins. The notification must include:

- a. Owner/operating contact information;
- b. API well number;
- c. Latitude/longitude coordinates for each well in decimal degrees to an accuracy and precision of five (5) decimals of a degree

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- using the North American Datum of 1983;
- d. The planned date for the beginning of flowback.

Annual reporting requirements of each well completion can be made by either a traditional report or an alternative digital report. The traditional report must list each well completion and any deviation from the rule along with log records that list each well location, API well number, duration times in hours for flowback, recovery to the flow line, combustion, venting and specific reasons for venting in lieu of capture or combustion. The alternative digital report must also include a list of well completions accompanied by digital photographs showing each well completion in progress along with digital stamps of the latitude/longitude coordinates.

In addition to the notification and reporting requirements, the owners or operators must maintain a daily log for each well completion operation at each affected gas well. The daily log consists of each well location, API well number, duration times in hours for flowback, recovery to the flow line, combustion, venting and specific reasons for venting in lieu of capture or combustion.

The NSPS rule, 40 CFR 60 Subpart OOOO, is an extensive rule that applies not only

to the well completions addressed here, but also includes specific requirements for compressors, pneumatic controllers and storage tanks. In addition to the new NSPS rules, the EPA has also made changes to various NESHAPs subparts in 40 CFR Part 63 that affect Natural Gas Transmission and Storage Facilities and Oil and Natural Gas Production Facilities.

Additional information concerning the rule requirements and EPA's actions concerning the oil and gas industry can be found at

<http://www.epa.gov/airquality/oilandgas>.

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