

**PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION****COMPLIANCE DEMONSTRATION INSTRUCTIONS FOR  
THE CATEGORY NO. 38  
AIR QUALITY PERMIT EXEMPTION CRITERIA**

The Category No. 38 exemption criteria apply to any well that was spudded (drilled) on or after August 10, 2013, and air contamination source that was constructed or modified on the well pad on or after August 10, 2013. The owner or operator of Exploratory wells, wildcat wells, or delineation wells as defined in 40 CFR Part 60, Subpart OOOO are not required to submit any compliance demonstration to the Department. However, the owner or operator must comply with all applicable state and federal requirements including 40 CFR Part 60, Subpart OOOO requirements.

To demonstrate compliance with the Category No. 38 exemption criteria, the owner or operator is required to use any generally accepted model or calculation methodology within 180 calendar days after the “well completion” as defined in 40 CFR Part 60, Subpart OOOO or installation of a source. Well completion means the process that allows for the flowback of petroleum or natural gas from newly drilled wells to expel drilling and reservoir fluids and tests the reservoir flow characteristics, which may vent produced hydrocarbons to the atmosphere via an open pit or tank. The 180 calendar days clock for compliance demonstration begins once flowback starts. If the well is shut-in prior to flow back begins, the well is not considered as completed.

Within 60 calendar days after the well begins producing continuously to the flow line or to a storage vessel for collection, whichever occurs first, and annually thereafter, the owner/operator must perform a leak detection and repair (LDAR) program. No well will be considered to be put “into production” unless gas is flowing into a sales line. For any well owner or operator that is selling gas through temporary equipment designed for flowback, the well shall not be considered to be placed “into production” until the earlier of either of the following: (1) 30 days after the first gas sales through temporary flowback separator(s), if sales through such temporary equipment continue for more than 30 days; or (2) commencement of gas sales through permanent production separators. When wells are temporarily shut-in, an owner or operator is not required to perform a leak detection and repair (LDAR) program until within 60 calendar days after the well is put into production and gas is flowing into a sales line. However, the owner or operator is required to repair a leak from temporarily shut-in wells as expeditiously as practicable, but no later than 15 calendar days after it is detected at a temporarily shut-in well.

Leaks are to be repaired no later than 15 calendar days after leak detections unless facility shutdowns or ordering of replacement parts are necessary for repair of the leaks.

The initial compliance demonstration submitted to the Pennsylvania Department of Environmental Protection (the Department or DEP) may be submitted through electronic or regular mail to the appropriate DEP Regional Air Program Manager. The owner or operator is required to maintain records of the compliance demonstration for at least 5 years and the records shall be made available to the Department upon request.

These compliance demonstration instructions should assist the owners or operators of sources located at well pads to consistently comply with the criteria specified in Category No. 38 of the Air Quality Permit Exemption List (Document No. 275-2101-003). The following instructions include the necessary requirements to demonstrate compliance with each provision of the Category No. 38 exemption criteria.

The provisions of Category No. 38 are printed in “bold” text with the explanatory instructions in regular font type.

**38. Oil and gas exploration, development, and production facilities and associated equipment and operations meeting the following provisions:**

- a. **Conventional wells, wellheads and all other associated equipment. A conventional well is any well that does not meet the definition of unconventional gas well in 58 PA.C.S § 3203.**

The owner or operator of conventional wells, wellheads and all other associated equipment are not required to submit a compliance demonstration to the Department.

- b. **Well drilling, completion and work-over activities.**

HOW TO DEMONSTRATE COMPLIANCE WITH THIS PROVISION

The completion activities are subject to 40 CFR Part 60, Subpart OOOO and the owner or operator is required to comply with the applicable requirements.

As provided in 40 CFR § 60.5420, the owner and operator must send a copy of the 24-hour advance notice prior to the commencement of each well completion as required under Pennsylvania’s Oil and Gas Law (Act 13 of 2012) to the Air Program Manager in the appropriate DEP regional office. The notification must be submitted to DEP in writing; an e-mail will suffice.

Documents required to be submitted to the Department to demonstrate compliance for well completion notification requirement:

The well completion notification must include the following:

- (1) Contact information for the owner or operator;
- (2) Name of the Well site (if any), County and Township;
- (2) API well number;

- (3) Latitude/Longitude coordinates for each well in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983;)
- (4) Planned date of the beginning of flowback;

Records to be maintained during every day of the well completion activity:

During every day of the well completion activity, the owner/operator is required to maintain a daily log book containing the following information for each well completion:

- (1) Location including County and Township name;
- (2) API well number;
- (3) Duration of flowback (hours);
- (4) Duration of venting (hours);
- (5) Reasons for venting to atmosphere;
- (6) Duration of recovery to the flow line (hours); and
- (7) Duration of combustion (hours).

Documents required to be submitted to the Department to demonstrate compliance with Reduced Emissions Completion (REC) requirements

- (1) Contact information for the owner or operator;
- (2) Location including County and Township name;
- (3) API well number;
- (4) Duration of flowback;
- (5) Duration of recovery to the flow line;
- (6) Duration of combustion;
- (7) Duration of venting;
- (8) Specific reasons for venting,
- (9) Documentation for exception from control/recovery.

OR

Photograph of well with REC that contains the following:

- A. Date of photograph;
- B. Longitude and latitude of the well site embedded within or stored with the photograph (or separate GIS device visible in frame); and
- C. Picture of equipment for storing or re-injecting recovered liquid, equipment for routing recovered gas to gas flow line, and the completion combustion device connected to and operating at each completion operation.

**c. Non-road engines as defined in 40 CFR § 89.2.**

The owner or operator of a “non-road engine” as defined in 40 CFR § 89.2 is not required to submit any compliance demonstration to the Department.

However, as required by *25 Pa. Code* § 135.3, the owner or operator is required to report emissions from all sources, including exempted sources including non-road engines, located at the facility in the annual source report, which must be submitted to DEP by March 1st each calendar year. The Department’s natural gas inventory and instructions can be located at the following web site:

<http://www.dep.pa.gov/Business/Air/BAQ/BusinessTopics/Emission/Pages/default.aspx#.VmsZGfMo6Uk>

**d. Unconventional wells, wellheads, and associated equipment, provided the applicable exemption criteria specified in subparagraphs i, ii, iii, iv and v are met.**

- i. Within 60 days after the well is put into production, and annually thereafter, the owner/operator will perform a leak detection and repair (LDAR) program that includes either the use of an optical gas imaging camera such as a FLIR camera or a gas leak detector capable of reading methane concentrations in air of 0% to 5% with an accuracy of +/- 0.2% or other leak detection monitoring devices approved by the Department. LDAR is to be conducted on valves, flanges, connectors, storage vessels/storage tanks, and compressor seals in natural gas or hydrocarbon liquids service. Leaks are to be repaired no later than 15 days after leak detections unless facility shutdowns or ordering of replacement parts are necessary for repair of the leaks. The optical gas imaging camera or other Department-approved gas leak detection equipment must be operated in accordance with manufacturer-recommended procedures. For the storage vessel, any leak**

**detection and repair will be performed in accordance with 40 CFR Part 60, Subpart OOOO.**

- A. A leak is considered repaired if one of the following can be demonstrated:**
- 1. No detectable emissions consistent with Method 21 specified in 40 CFR Part 60, Appendix A;**
  - 2. A concentration of 2.5% methane or less using a gas leak detector and a VOC concentration of 500 ppm or less;**
  - 3. No visible leak image when using an optical gas imaging camera;**
  - 4. No bubbling at leak interface using a soap solution bubble test specified in Method 21; or a procedure based on the formation of bubbles in a soap solution that is sprayed on a potential leak source may be used for those sources that do not have continuously moving parts and that do not have a surface temperature greater than the boiling point or less than the freezing point of the soap solution; or**
  - 5. Any other method approved by the Department.**
- B. Leaks, repair methods and repair delays will be recorded and maintained for five years. If a gas leak detector is used, a leak is to be detected by placing the probe inlet at the surface of a component. The Department may grant an extension for leak detection deadlines or repairs upon the receipt of a written request from the owner or operator of the facility documenting the justification for the requested extension.**

The Department interprets the phrase “well put into production” to mean when the well is producing continuously to the flow line or to a storage vessel. Therefore, within 60 calendar days after the well begins producing continuously to the flow line or to a storage vessel for collection, whichever occurs first, and annually thereafter, the owner/operator will be required to perform a leak detection and repair (LDAR) program. No well will be considered to be put “into production” unless gas is flowing into a sales line. For any well owner or operator that is selling gas through temporary equipment designed for flowback, the well shall not be considered to be placed “into production” until the earlier of either of the following: (1) 30 days after the first gas sales through temporary flowback separator(s), if sales through such temporary equipment continue for more than 30 days; or (2) commencement of gas sales through permanent production separators.

When wells are temporarily shut-in, an owner or operator is not required to perform a leak detection and repair (LDAR) program until within 60 calendar days after the well is put

into production and gas is flowing into a sales line. However, the owner or operator is required to repair a leak from temporarily shut-in wells as expeditiously as practicable, but no later than 15 calendar days after it is detected at a temporarily shut-in well.

Documents required to be submitted to DEP to demonstrate compliance with LDAR requirements include the following:

- (1) The equipment or component name or ID, date of leak detection, detection method and measurement data or Still FLIR camera image of leaking component, Still FLIR camera image of non-leaking (repaired) component;
- (2) The number of repairs not completed within 15 calendar days. A list of all equipment or components currently on the “Delay of Repair” list, the date each component was placed on the list, reasons and the scheduled dates of repairs; and
- (3) The number of equipment or components that could not be repaired and reason, if applicable.

#### Records to be maintained for LDAR requirements

Following the completion of the first compliance demonstration, the owner or operator may record and maintain the data for the subsequent annual LDAR requirements in an electronic form or written log. There is no need for an owner or operator to submit video footage of the imaging camera. The owner or operator needs to maintain the record for leaks, repair methods and repair delays for five years and make the records available to the Department, upon request.

- ii. **Storage vessels/storage tanks or other equipment equipped with VOC emission controls achieving emissions reduction of 95% or greater. Compliance will be demonstrated consistent with 40 CFR Part 60, Subpart OOOO or an alternative test method approved by the Department.**

#### HOW TO DEMONSTRATE COMPLIANCE WITH THIS PROVISION

VOC emissions from storage tanks may be calculated using generally accepted methods such as direct measurement, modeling programs such as current version of EPA TANKS, ProMax, API E&P Tanks, process simulation software such as HYSIM, HYSIS, WINSIM, PROSIM, or calculation methodologies such as Vazquez-Beggs equation.

Storage vessels/tanks subject to 40 CFR Part 60, Subpart OOOO must comply with the applicable federal requirements.

Compliance with the exemption criteria for storage vessels may be demonstrated by:

- (1) An initial performance test and a periodic performance test as specified in 40 CFR § 60.5413 d)(2) through (10) within 60 months of a previous test;

- (2) If the storage tank is equipped with combustion control device, the owner or operator may submit the performance test results conducted by the device manufacturer. The manufacturer must demonstrate that a specific model of the control device achieves the performance requirement of 95% or more VOC control by conducting a performance test as specified in 40 CFR § 60.5413 (d)(2) through (10).
- (3) Maintaining daily average control device parameters above (or below) the minimum (or maximum) level established during the performance test;
- (4) Preparing a site-specific monitoring plan for a continuous monitoring system; and
- (5) Conducting initial and annual inspections of covers and closed vent systems for leaks or defects.

Documents required to be submitted to the Department to demonstrate compliance with the 95% VOC reduction requirement for storage vessels

- (1) An identification number for each affected storage vessel.
- (2) The location of each storage vessel with latitude and longitude coordinates in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.
- (3) Documentation of the VOC emission rate determination using a generally accepted model or calculation methodology, based on the maximum average daily throughput determined for a 30-day period of production.
- (4) Results of the performance tests performed as specified in 40 CFR § 60.5413 (d)(2) through (10).

Documents required to be submitted to the Department to demonstrate compliance with the 95% VOC reduction requirement from other equipment

- (1) An identification number for each piece of affected equipment.
- (2) Documentation of the VOC emission rate determination using a generally accepted model or calculation methodology.
- (4) Results of the performance tests performed as specified in 40 CFR § 60.5413 (d)(2) through (10).

Documents required to be submitted to the Department to demonstrate compliance with the 95% VOC reduction requirement from tanker truck load-out

- (1) An identification number for each piece of affected equipment.
  - (2) Documentation of the VOC emission rate determination using a generally accepted model or calculation methodology.
  - (4) Results of the performance tests performed as specified in MACT-level annual leak test or NSPS-level annual test (3 inches pressure change) or alternate test methods as approved by the Department.
- iii. Combined VOC emissions from all the sources at the facility less than 2.7 tons on a 12-month rolling basis. If the VOCs include HAPs, the HAP exemption criteria in this paragraph will be met. Compliance with this criterion is to be determined using any generally accepted model or calculation methodology. Combined HAP emissions [not including Polychlorinated Biphenyls (PCBs), Chromium (Cr), Mercury (Hg), Lead (Pb), Polycyclic Organic Matter (POM), Dioxins and Furans] at the facility less than 1000 lbs of a single HAP or one ton of a combination of HAPs in any consecutive 12-month period. The emission criteria do not include emissions from sources which are approved by the Department in plan approvals, or the general plan approvals/general operating permits at the facility and the emissions from sources meeting the exemption criteria in subparagraphs i, ii, and iv.**

Documents required to be submitted to the Department to demonstrate compliance with this criterion

The owner or operator must submit to the Department detailed VOC emissions and HAP emissions calculations using generally accepted models or calculation methodologies for the estimation of emissions include, but not limited to, vendors' data, direct measurement, modeling programs such as current version of EPA TANK, ProMax, API E&P Tanks, process simulation software, source test data from identical sources or EPA emission factors.

- iv. Flaring activities as outlined below:**
- A. Flaring used at exploration wells to determine whether oil and/or gas exists in geological formations or to appraise the physical extent, reserves and likely production rate of an oil or gas field.**
  - B. Flaring used for repair, maintenance, emergency or safety purposes.**
  - C. Flaring used for other operations at a wellhead or facility to comply with 40 CFR Part 60, Subpart OOOO requirements.**



- D. Enclosed combustion device including enclosed flare will be used for all permanent flaring operations at a wellhead or facility. These flaring operations will be designed and operated in accordance with the requirements of 40 CFR § 60.18.**

Only “flaring operations” are required to be designed and operated in accordance with the requirements of 40 CFR § 60.18. Other enclosed devices such as thermal oxidizer are not required to comply with the requirements of § 60.18.

Documents required to be submitted to the Department to demonstrate compliance with this criterion

The owner or operator must submit the document (manufacturer’s certification, specification sheet, etc.) to the DEP showing that all permanent flares are enclosed and are designed and operated in accordance with 40 CFR § 60.18.

- v. Combined NO<sub>x</sub> emissions from the stationary internal combustion engines at wells, and wellheads less than 100 lbs./hr., 1000 lbs./day, 2.75 tons per ozone season (the period beginning May 1 of each year and ending on September 30 the same year), and 6.6 tons per year on a 12-month rolling basis. The emissions criteria do not include emissions from sources which are approved by plan approvals or general permits at the facility.**

Documents required to be submitted to the Department to demonstrate compliance with this criterion

The owner or operator must submit to the Department detailed NO<sub>x</sub> emissions calculations from each NO<sub>x</sub> emitting source(s) using any generally accepted model or calculation methodology, including, but not limited to, vendors’ data, source test data from identical sources, or EPA emission factors.