

**AIR QUALITY PERMIT EXEMPTION CATEGORY NO. 38  
COMPLIANCE DEMONSTRATION INSTRUCTIONS  
FOR THE OWNERS AND OPERATORS OF  
OIL AND GAS EXPLORATION, DEVELOPMENT, AND PRODUCTION FACILITIES  
AND ASSOCIATED EQUIPMENT AND OPERATIONS**

The Pennsylvania Department of Environmental Protection (Department or DEP) issued amended the Category No. 38 exemption criteria on the Air Quality Permit Exempt List on August 10, 2013(Document No. 275-2101-003). The compliance demonstration criterion requires an owner or operator to demonstrate compliance with the exemption criteria using any generally accepted model or calculation methodology within 180 days after a well completion or the installation of a source.

As defined in 40 CFR Part 60, Subpart OOOO the term “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 (See 40 CFR Section § 60.5430).

The 180-day clock for the submission of the compliance demonstration is triggered when the well completion begins once flowback starts. However, if the well is shut-in and there is no flowback, the well will be considered completed and the 180-day clock will begin after the well is shut-in.

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

These compliance demonstration instructions are designed to assist the owners or operators of sources located at well pads to consistently comply with the Category No. 38 exemption criteria on the Air Quality Permit Exemption List. The following instructions describe the type of information needed to satisfactorily 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.

**A. Exemption Category No. 38: Provisions a. and b.**

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

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

1. HOW TO DEMONSTRATE COMPLIANCE WITH THESE PROVISIONS

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.

The owner and operator must send a copy of the 24-hour advance notice to the DEP prior to the commencement of each well completion as required under Pennsylvania's Oil and Gas Law (Act 13 of 2012). This notice must be submitted in writing, via regular mail or via e-mail to the Air Program Manager in the appropriate DEP regional office. The advance notice submitted to the DEP under Act 13 also satisfies the advance notice requirements for well completion operations subject to 40 CFR § 60.5420 (a)(2).

2. DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE FOR WELL COMPLETION NOTIFICATION REQUIREMENT:

The well completion notification must include the following:

- (i) Contact information for the owner or operator;
- (ii) API well number;
- (iii) 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;
- (iv) Planned date of the beginning of flowback;

3. 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:

- (i) Location;
- (ii) API well number;
- (iii) Duration of flowback (hours);

- (iv) Duration of venting (hours);
- (v) Reasons for venting to atmosphere;
- (vi) Duration of recovery to the flow line (hours); and
- (vii) Duration of combustion (hours).

4. DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE WITH REDUCED EMISSIONS COMPLETION (REC) REQUIREMENTS

- (i) Contact information for the owner or operator;
- (ii) Location;
- (iii) API well number;
- (iv) Duration of flowback;
- (v) Duration of recovery to the flow line;
- (vi) Duration of combustion;
- (vii) Duration of venting;
- (viii) Specific reasons for venting,
- (ix) Documentation for exception from control/recovery.

OR

Photograph of well with REC that contains the following:

- (i) Date of photograph;
- (ii) Longitude and latitude of the well site embedded within or stored with the photograph (or separate GIS device visible in frame); and
- (iii) 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.

**B. Exemption Category No. 38: Provision c.**

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

**DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE WITH THIS CRITERION.**

The owner or operator can submit to the DEP a copy of the certification of conformity from the manufacturer of each non-road engine regulated by EPA under 40 CFR Part 89 showing that each engine is complying with the respective Tier (1 through 4) emissions standards

OR

The owner or operator shall submit a statement to the Department identifying each non-road engine at the facility that is in compliance with the respective federal emission standards promulgated by EPA under 40 CFR Part 89. The owner or operator must retain a copy of the certification of conformity and submit the certification to the Department upon request.

**C. Exemption Category No. 38: Provision d.i.**

- **Unconventional wells, wellheads, and associated equipment, provided the applicable exemption criteria specified in paragraph d, subparagraphs i, ii, iii, iv and v of the Category No. 38 exemption criteria are met.**
  - **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 leak is considered repaired if one of the following can be demonstrated:**

- **No detectable emissions consistent with Method 21 specified in 40 CFR Part 60, Appendix A;**
  - **A concentration of 2.5% methane or less using a gas leak detector and a VOC concentration of 500 ppm or less;**
  - **No visible leak image when using an optical gas imaging camera;**
  - **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**
  - **Any other method approved by the Department.**
- **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.**

## 1. DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE WITH LDAR REQUIREMENTS

- (i) The equipment or component, date of leak detection, detection method and measurement data or visual image;
- (ii) The number of repairs not completed within 15 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
- (iii) The number of pieces of equipment or components that could not be repaired and reason, if applicable.

## 2. RECORDS TO BE MAINTAINED FOR LDAR REQUIREMENTS

Following the first time compliance demonstration, the owner or operator may record and maintain the data for the subsequent annual LDAR requirements in electronic form or written log. The owner or operator needs to maintain the record for leaks, repair methods and repair delays for five years and make available to the Department upon request.

**D. Exemption Category No. 38: Provision d.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.**

**1. 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 Subpart OOOO must comply with the applicable federal requirements.

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

- (i) 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;
- (ii) 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 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).
- (iii) Maintaining daily average control device parameters above (or below) the minimum (or maximum) level established during the performance test;
- (iv) Preparing a site-specific monitoring plan for a continuous monitoring system; and
- (v) Conducting initial and annual inspections of covers and closed vent systems for leaks or defects.

**2. DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE WITH THE 95% VOC REDUCTION REQUIREMENT FROM STORAGE VESSELS.**

- (i) An identification of each affected storage vessel.

- (ii) 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.
- (iii) 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.
- (iv) Results of the performance tests performed as specified in 40 CFR § 60.5413 (d)(2) through (10).

3. DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE WITH THE 95% VOC REDUCTION REQUIREMENT FROM OTHER EQUIPMENT

- (i) An identification of each affected equipment.
- (ii) Documentation of the VOC emission rate determination using a generally accepted model or calculation methodology.
- (iii) Results of the performance tests performed as specified in 40 CFR part 60 Subpart OOOO § 60.5413 (d)(2) through (10).

4. DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE WITH THE 95% VOC REDUCTION REQUIREMENT FROM TANKER TRUCK LOAD-OUT

- (i) An identification of each affected equipment.
- (ii) Documentation of the VOC emission rate determination using a generally accepted model or calculation methodology.
- (iii) 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.

**E. Exemption Category No. 38: Provision d.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 shall submit to the Department detailed VOC 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.

**F. Exemption Category No. 38: Provision d.ivA-D.**

**Flaring activities as outlined below:**

- **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.**
- **Flaring used for repair, maintenance, emergency or safety purposes.**
- **Flaring used for other operations at a wellhead or facility to comply with 40 CFR Part 60, Subpart OOOO requirements.**
- **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.**

**DOCUMENTS REQUIRED TO BE SUBMITTED TO THE DEPARTMENT TO DEMONSTRATE COMPLIANCE WITH THIS CRITERION**

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

**G. Exemption Category No. 38: Provision d.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 shall submit to the Department detailed calculations for NO<sub>x</sub> emissions from each source 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.