



FREQUENTLY ASKED QUESTIONS
General Permit-5 ([GP-5](#)) and [Exemption Category No. 38](#)

GP- 5 is a General Plan Approval and/or General Operating Permit for Natural Gas Compression and/or Processing Facilities. This GP applies to mid-stream natural gas gathering, compression and/or processing facilities that are minor air contamination sources or facilities. Exemption Category No. 38 of the Air Quality Permit Exemption List applies to sources located at a well pad.

GP-5 Applicability:

- 1. Question:** *If a compressor engine(s) (located at a well pad) is compressing/conveying gas from multiple well pads, would the engine(s) and well pad facility be considered a compressor station and potentially be authorized via a GP-5?*
- 2. Question:** *Please explain the circumstances under which it would be appropriate to apply for a GP-5 at a well site.*

Response: GP-5 may be authorized by the Department of Environmental Protection (DEP or Department) for engines located at a well pad provided the well pad is aggregated as a single facility with mid-stream natural gas compression sources. The gases must be collected and compressed from multiple well pads by the engine(s) located at a well pad.

GP-5 is applicable only to natural gas compression and/or processing facilities that are not major sources. GP-5 requirements, including quarterly leak detection and repair (LDAR), will be applicable to the entire facility, including sources located at the well pad. In such cases, Exemption Category No. 38 criteria will not be applicable to sources located at the well pad because they are covered by GP-5. All emissions, including leaks from the facility, must be summed on a monthly basis to document that the facility continues to be a minor facility on a 12-month rolling basis.

GP-5 LDAR Requirements:

- 3. Question:** *What is the definition of a leak?*
- 4. Question:** *What alternatives are allowed to the camera?*

Response: DEP considers a “leak” as any release of gaseous hydrocarbons that is determined by Audible, Visual, and Olfactory (“AVO”) inspection, which is required to be performed on a monthly basis by GP-5. DEP also considers a “leak” as any release of gaseous hydrocarbons that will be detected

by a Forward looking infrared (FLIR) camera or any gas leak detection device, which is required to be used on a quarterly basis under GP-5.

However, any equipment or component that is designed to protect the equipment or safety of personnel is not considered a "leak." A release from any equipment or component designed by the manufacturer to protect the equipment, controller, personnel, to prevent ground water contamination, gas migration, or an emergency situation is also not considered a leak.

The owner or operator may use any gas detection device approved by the Department to detect leaks. At this time, the Department is not aware of any alternative device that can replace a FLIR camera. However, condition H.2 in GP-5 would authorize the use of any technology for leak detection as an alternate to FLIR provided it is approved by DEP following a case-by-case evaluation of the device or technology.

5. Question: *Will the leaks need to be included in any annual emissions reporting?*

Response: As required by 25 Pa. Code § 135.3, an owner or operator is required to report emissions from leaks in the annual source report. The annual source report must be submitted to DEP by March 1st each calendar year for emissions during the previous calendar year. All emissions, including leaks from the facility, must be summed on a monthly basis to document that the facility continues to be a minor facility on a 12-month rolling basis.

6. Question: *What is the definition of the term "repair?"*

7. Question: *Will the same device that detected the leak be needed to confirm the repair (e.g., If a camera IDs the leak, will a camera be required to confirm the repair?)?*

Response: The term "repair" means that equipment is adjusted or otherwise altered to eliminate a leak so that the leak can no longer be detected.

If the leak is detected during an AVO inspection, which is required under GP-5 to be performed on a monthly basis,, the leak will be considered repaired when the leak can no longer be detected during an AVO inspection after the leak has been repaired.

If the leak is detected using a FLIR camera, which is required to be used on a quarterly basis by GP-5, the leak will be considered repaired when the leak can no longer be detected by a FLIR camera after the leak has been repaired.

The same device that detected the leak must be used to confirm that the detected leak is repaired.

8. Question: *Is leak repair required within 15 calendar days or 15 business days?*

Response: As required by GP-5, if any leak is detected, the owner or operator of the facility must repair the leak as expeditiously as practicable but no later than 15 calendar days after the leak is detected except as provided by 40 CFR § 60.482-9.

Turbines:

9. Question: *Is the GP-5 applicable to the installation and operation of a natural gas-fired turbine used in conjunction with a waste heat recovery system?*

Response: Any turbine with heat recovery can be authorized by DEP under GP-5 if the turbine meets the conditions/requirements specified in Section C (Requirements for Natural Gas-fired Simple Cycle Gas Turbines) of GP-5.

Engines:

10. Question: *Is GP-5 applicable to natural gas-fired emergency engines?*

Response: As indicated in the Applicability/Scope Section (Section A, Condition 2) of GP-5, the conditions in GP-5 are applicable to any natural gas-fired spark ignition internal combustion engine installed at a natural gas compression and/or processing minor facility. The exceptions to this condition are engines used as a “peak shaving engine generator,” a source participating in an Emergency and Economic Load Response Program, and engines installed at natural gas transmission stations. The engines used as a “peak shaving engine generator” or a source participating in an Emergency and Economic Load Response Program, and engines installed at natural gas transmission stations need a plan approval (See Section A, Condition 4: Prohibited Use of GP-5) unless exempted under Air Quality Permit Exemption List (Document No. 275-2101-003), Section 127.14(a)(8) Exemptions, Category No. 6. All emissions including leaks from the facility must be summed on a monthly basis to document that the facility continues to be a minor facility on a 12-month rolling basis.

11. Question: *Does the company need a certification from the engine manufacturer?*

Response: GP-5 does not require an owner or operator to obtain a certification from the engine manufacturer. However, the owner or operator must demonstrate compliance with applicable requirements within 180 days after initial startup of the engine as required under Section A, Condition 22 of GP-5. In addition to GP-5 requirements, the company is required to meet all applicable federal requirements for the engine pursuant to Section A, Condition 23 of the General Permit. All emissions, including leaks from the facility, must be summed on a monthly basis to document that the facility continues to be a minor facility on a 12-month rolling basis.

12. Question: *Is periodic monitoring using a portable gas analyzer required if the engine is operated less than 2500 hours?*

Response: Section B, Condition 4 of GP-5 delineates the performance testing requirements for engines. If the engine is rated less than or equal to 500 brake horsepower (bhp) (Condition 4.a), vendor guarantees or data from Department-approved testing conducted within 12 months on an identical engine for Oxides of Nitrogen (NO_x), Carbon Monoxide (CO), and Non-Methane Hydrocarbon (NMHC) or Non-Methane, Non-Ethane Hydrocarbon (NMNEHC) shall be sufficient to verify emissions rates. However, the Department may require additional information to verify emission rates. If the engine is rated greater than 500 bhp, then initial testing is required within 180 days after initial startup (Section 4.b) and subsequent testing is required after every 2500 hours of operation (Condition 4.c), not 2500 hours of operation per year. Therefore, the engine is not required to be tested for NO_x and CO emissions using a portable gas analyzer if it operates less than 2500 hours. Periodic monitoring using a portable gas analyzer is required after the engine has operated for 2500 hours cumulatively.

13. Question: *If a compressor station is previously authorized under an earlier versions of the GP-5 and is located at a well pad, can the renewal application be authorized under the February 2013 GP-5 (current GP-5)? If the renewal cannot be authorized under the new GP-5, would a plan approval be required if the engine and other sources do not meet the Exemption 38 criteria?*

Response: An engine or a dehydrator that is located at a well pad and authorized under a previous GP-5 is not eligible to be re-authorized under the current GP-5 if it is not used for mid-stream natural gas operations. Such sources may either be exempt under the Category No. 38 exemption criteria or the owner or operator of the source may need to apply to the appropriate DEP Regional Office for a State-only Operating Permit. In either case, a Plan Approval is not needed.

GP-5 may be authorized by DEP provided the well pad is aggregated as a single facility with mid-stream natural gas compression sources. The gases must be collected and compressed from multiple well pads by the engine located at a well pad.

GP-5 is applicable only to natural gas compression and/or processing facilities that are not major sources.

GP-5 requirements, including quarterly leak detection and repair (LDAR), will be applicable to the entire facility including sources located at the well pad. In such cases, the Category No. 38 exemption criteria will not be applicable to sources located at the well pad because they are covered by GP-5. All emissions, including leaks from the facility, must be summed, on a monthly basis, to document that the facility continues to be a minor facility on a 12-month rolling basis.

14. Question: *A facility's ultimate build out of the compressor station will have about a dozen engines. Can construction continue during the entire 5 year period if there is not an 18-month lapse in construction?*

Response: An owner or operator has a 5-year authorization under GP-5 to install all engines. All engines must be identified in the Application for Authorization to Use the General Plan Approval and General Operating Permit for GP-5. Therefore, the owner or operator must install all engines within the term of the GP-5 authorization. The uninstalled engines will require a new authorization issued by the Department. Each engine after start-up must comply with the performance testing requirements and other applicable requirements specified in the General Permit.

15. Question: *If the company installs a non-emergency natural gas fired generator at the facility and sells any excess electricity back to the grid, can the generator be authorized under GP-5?*

Response: A natural gas-fired engine generator located at natural gas compression or natural gas processing facility that is used to produce electricity and sell to the grid may not be authorized under GP-5, unless the engine is used to generate power solely to the facility for which the General Permit is authorized.

16. Question: *Can the portable analyzer testing data obtained under Section B, 4 (c) for NOx and CO be used for the Annual Reporting Requirements under Section A Condition 15?*

Response: In accordance with 25 Pa. Code § 135.5, if direct recordkeeping is not possible or practical, sufficient records shall be kept to provide the needed information by indirect means. Since engines or turbines authorized to operate under GP-5 are required to perform reference method tests for NOx and CO emissions, the periodic monitoring test results for NOx and CO emissions using a portable gas analyzer cannot be used for the Annual Reporting Requirements under Section A, Condition 15 of GP-5. The owner or operator may submit the NOx and CO emissions data obtained using portable gas analyzer only if the reference method test data are not available. The owner or operator must comply with the periodic monitoring requirements for each engine at every 2,500 hours of operation as established in Section B, 4, (c) of the GP-5.

17. Question: *Does Section B, 5 (b) require fuel metering for each engine?*

Response: As stated in Section B, 5 (b) of GP-5, the owner or operator is required to maintain comprehensive accurate records of the amount of each fuel type that is used per month in each engine. Though it is preferable to have independent fuel meter for each engine, the Department may accept the alternative calculations methodology to determine accurately fuel consumption for each engine.

18. Question: *If we have an engine permitted under the GP-5, would we be able to swap that engine out for another GP-5 compliant engine without repermitting? Is there just a change of serial number notification for that situation, or would we have to submit a whole new permit?*

Response: A replacement engine is considered by DEP as a “new source” which requires a new GP-5 authorization issued by the Department. If the owner or operator has identified the backup engines in the application, then new authorization is not required to swap an engine that is permitted and operating under GP-5 or to install any of these backup engines. However, the same backup engines must be covered only in one General Permit application. After the backup engine has been installed, the owner or operator must comply with all applicable requirements established for engines in GP-5.

Process Heaters:

19. Question: *Are natural gas-fired process heaters less than 10 mm BTU/hour eligible for authorization under the GP-5?*

Response: Yes. Process heaters that are an integral part of the natural gas fractionation and separation process units can be authorized by DEP under GP-5. As specified in Section G of GP-5, the owner or operator of a fractionation unit located at natural gas processing plant shall comply with 40 CFR Part 60, Subpart KKKK – Standards of Performance for Equipment Leaks of VOCs from onshore natural gas processing plants requirements. The emissions from all sources including process heaters at the facility must be summed on a monthly basis to document that the facility continues to be a minor facility on a 12-month rolling basis.

Tanks:

20. Question: *Are tanks with Volatile Organic Compounds (VOC) emissions greater than 3 tpy but less than 6 tpy without a flare/combustor as a control eligible for authorization under the GP-5?*

Response: Yes. The tanks are authorized under GP-5 so long as the tanks meet the control requirements of 40 CFR Part 60, Subpart OOOO and the requirements of 25 Pa. Code §§ 127.56 and 127.57.

Plan Approval and Best Available Technology (BAT):

21. Question: *Would the GP-5 limits for the proposed turbines represent BAT or would the plan approval potentially contain limits more stringent than the GP-5 limits?*

22. Question: *If the GP-5 limits could conceptually be accepted as BAT, would the BAT analysis required for the plan approval be a full top down analysis or a simpler analysis proposing the GP-5 limits as BAT?*

23. Question: *Would the tanks included in Plan Approval application be subject to a full top down BAT analysis and potentially require controls such as a flare/combustor?*

Response: The BAT requirements for the air contamination sources included in a Plan Approval Application are determined on a case-by-case basis, which may include a top-down analysis. The analysis would include turbines, tanks, or any other emission source if the Department determined that they were subject to the plan approval requirements. The BAT requirements included in GP-5 generally serve as a “floor” for subsequent case-by-case BAT determinations. Consequently, BAT established through the plan approval process could be more stringent than emission limits specified in GP-5.

Exemption Category No. 38:

24. Question: *The Department seems to use the terms “well head” and “well pad” interchangeably. Are these terms the same or are they different?*

Response: The terms “well head” and “well pad” are different terms and are not used interchangeably by DEP. The “well head” refers exclusively to the structural and pressure-containing interface for the drilling and production equipment. It is the “Christmas tree” or assembly of valves, spools and fittings used for a gas well. The “well pad” area not only includes the well head, but also any well pad-specific associated equipment such as dehydration units, storage tanks and booster stations.

25. Question: *The PADEP does not define “well completion”; however the EPA under Subpart OOOO defines well completion as follows:*

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.

When does the 180- day clock start with regards to well completion? For example, a well completion may require weeks to complete and a well may not be completed to flow back. Therefore, does the 180- day clock start with the initial submission of the Subpart OOOO completion notification, the act of well completion, or once the well is completed. Also, if the well is shut-in and there is no flowback, is that considered a completion?

Response: The 180- day clock will start after the “well completion” as defined by the EPA in 40 CFR § 60.5430. In other words, the 180-day clock for compliance demonstration purposes begins once flowback starts.

26. Question: *What is the definition of a site: a single well or a well pad?*

Response: For purposes of the Category No. 38 Exemption, DEP doesn’t use the term “site,” but uses the term “facility.” As defined in 25 Pa. Code § 121.1, the term facility means “an air contamination source or a combination of air contamination sources located on one or more contiguous or adjacent properties and which is owned or operated by the same person under common control.” For GP-5

purposes, a facility may be a single well and associated equipment or multiple wells and associated equipment located at a single well pad or multiple well pads and the associated equipment. Single facility (source) determinations are made on a case-by-case basis using the Department's "Guidance for Performing Single Stationary Source Determination for Oil and Gas Industries (Document No. 270-0810-006, October 12, 2012)." Emission thresholds included in the Exemption Category No. 38 are applicable to the facility.

27. Question: *What is the definition of a leak?*

Response: For purposes of the Category No. 38 Exemption, a leak is any gaseous hydrocarbons that can be detected by an optical gas imaging camera such as a FLIR camera or any other approved gas leak detection device.

However, any equipment or component that is designed to protect the equipment or safety of personnel is not considered a "leak." A release from any equipment or component designed by the manufacturer to protect the equipment, controller, personnel, to prevent ground water contamination, gas migration, or an emergency situation is also not considered a leak.

28. Question: *Is leak repair required within 15 calendar days or 15 business days?*

Response: As required by Air Quality Exemption Category No. 38, leaks are to be repaired no later than 15 calendar days after detection unless facility shutdowns or ordering of replacement parts are necessary for repair of the leaks.

29. Question: *If the wet gas wells do not meet the Exemption Category No. 38, 2.7 tpy VOC emission limit, would a Plan Approval prior to drilling and completing wells be required or will the plan approval be only required for our production equipment, such as tanks, engines, heaters, etc.?*

Response: If the VOC emissions from other sources at the facility such as heaters, dehydrators and engines will exceed the exemption threshold of 2.7 tpy (or any other exemption criteria are not achieved), a Plan Approval must be obtained from DEP prior to the commencement of construction of any production equipment.

No DEP authorization is needed for well drilling, completion and work-over activities. No DEP authorization is required if a storage tank or other equipment at the well pad is equipped with VOC emissions controls achieving 95 percent or greater reduction.

In accordance with Exemption Category No. 38 (b) on the Air Quality Permit Exemption List, well drilling, completion and work-over activities are exempted from permitting requirements. VOC exemption criteria do not include emissions from sources that 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.

30. Question: *Are the emissions from pneumatic devices and venting from annular spaces included in the 2.7 tons of VOCs/yr?*

Response: A release from any equipment or component designed by the manufacturer to protect the equipment, controller, or personnel or to prevent ground water contamination, gas migration, or an emergency situation is not required to be included for the 2.7 tpy VOC emissions threshold. However, these VOC emissions must be included in the annual source report required under 25 Pa. Code § 135.3. The annual source report must be submitted to DEP by March 1st each calendar year for emissions during the previous calendar year.

31. Question: *If the applicant demonstrates that engines located at the well pad meet the criteria under Exemption Category No. 38, are they exempt from plan approval and permitting requirements?*

Response: Sources meeting the Category No. 38 exemption criteria are exempted from both Plan Approval and Operating Permit requirements. Although a source may be exempt from the Plan Approval and Operating Permit requirements of 25 Pa. Code Chapter 127, the source is still subject to all other applicable federal and state air quality regulations including New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs). The federal NSPS and NESHAP requirements are adopted and incorporated by reference in their entirety in 25 Pa. Code § 127.35 and 25 Pa. Code Chapters 122 and 124, as applicable.

32. Question: *If the applicant cannot demonstrate that engines located at the well pad meet the exemption criteria under Exemption Category No. 38 or prefer authorization for engines at a well pad under GP-5, can authorization be granted under the GP-5?*

Response: If the applicant cannot demonstrate that engines located at the well pad meet the criteria specified in the Category No. 38 Exemption, the applicant must comply with the Plan Approval and Operating Permit requirements under 25 Pa. Code Chapter 127 Subchapter B (relating to plan approval requirements) and/or Subchapter F (relating to operating permit requirements). GP-5 may be authorized by DEP for affected engines located on a well pad if the well pad is aggregated as a single facility with a natural gas compression and/or processing facility. GP-5 is applicable only to natural gas compression and/or processing facilities that are not major sources. In order to use GP-5, the engine must collect and compress natural gas from multiple well pads.

33. Question: *Under the current Exemption Category No. 38, is there any limit/threshold for emissions from sources at the well pad that are not engines?*

Response: Under the previous Exemption Category No. 38, there was no limit/threshold for emissions for sources at the well pad (excluding engines) in order to qualify for exemption. All sources and operations including wells and associated equipment and processes that were located at oil and gas exploration and production facilities, regardless of emissions, were exempted. However, the revised

Exemption Category No. 38 specifies criteria and limits the amount of emissions of certain air contaminants.

For example, combined VOC emissions from all sources at the facility must be less than 2.7 tons on a 12-month rolling basis. Further, combined NO_x emissions from the stationary internal combustion engines at wells and wellheads must be 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 Sept. 30 the same year), and 6.6 tpy on a 12-month rolling basis. And, combined hazardous air pollutant (HAP) emissions at the facility must be less than 1,000 lbs of a single HAP or one ton of a combination of HAPs in any consecutive 12-month period.

The exemption emission thresholds do not include emissions from sources that are approved by the Department in Plan Approvals or General Plan Approvals/General Operating Permits at the facility, nor do they include emissions from sources meeting the criteria specified in Subparagraphs i, ii and iv in Exemption Category No. 38.

As required by 25 Pa. Code § 135.3, an owner or operator is required to annually report emissions to DEP from all sources, including exempt sources, located at the facility. The annual source report must be submitted to DEP by March 1st each calendar year for emissions during the preceding calendar year.

34. Question: *If you have an engine that meets the NO_x requirements under exemption #38, but has CO emissions above 20 tpy, is this engine still exempt from plan approval? Is this engine exempt from operating permits?*

35. Question: *Please confirm that a facility that qualifies for the exemption is not required to apply for and obtain an operating permit if emissions exceed the thresholds (in particular CO) on page 16 of the guidance concerning state only operating permits.*

Response: Sources meeting the established permit Exemption Category No. 38 emission thresholds are exempted from Plan Approval and Operating Permit requirements. This exemption would include CO emissions above 20 tpy so long as the established thresholds for NO_x emissions are not exceeded. Although a source may be exempt from the Plan Approval and Operating Permit requirements of Chapter 127, the source is subject to all other applicable air quality regulations, including federal and state requirements such as NSPS and NESHAPs, which are incorporated by reference in the Pennsylvania Code. .

36. Question: *Will the Bureau of Air Quality inspectors handle field enforcement of the exemption or will it be handled by oil and gas inspectors?*

Response: Regional air program staff will handle field enforcement of exemption criteria. However, oil and gas inspectors may gather information for air program staff, which may prompt an investigation by Air Program staff.

37. Question: *Should fugitive emissions be included as part of the 2.7 tpy of VOC if the facility is in an LDAR program?*

Response: Fugitive emissions are not required to be included as part of 2.7 tpy of VOC emissions threshold so long as the facility meets the specified LDAR exemption criteria.

38. Question: *What activity triggers a site to be in the Exemption 38 bucket – wells drilled after Aug. 10, 2013, or “well TIL’ed” after Aug.10, 2013?*

Response: The Air Quality Permit Exemption List revisions are applicable prospectively. The Category No. 38 exemption was revised on Aug. 10, 2013. The revised criteria for Exemption Category No. 38 are applicable for wells that are spudded or drilled after August 10, 2013 or any sources that commenced construction on or after Aug. 10, 2013.

39. Question: *Please clarify the following reference to 60.18: “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.”*

Response: As per Exemption Category No. 38, iv. D., 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.

40. Question: *Within 60 days after the well is put into production, and annually thereafter, the owner/operator is required to 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. What is the Department’s interpretation for “well put into production”?*

Response: The term “into production” is not defined in 40 CFR Subpart Part 60, Subpart OOOO. However, according to the definition of flowback, “.... [t]he flowback period ends with either well shut in or when the well is producing continuously to the flow line or to a storage vessel for collection, whichever occurs first”.

The Department’s interpretation of “well put into production” means that 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 or 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: (1) 30 days after 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.

The owners or operators of temporarily shut-in wells are 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 the leak as expeditiously as practicable but no later than 15 calendar days after it is detected for temporarily shut-in well.

41. Question: *Where the term "completion" is used, we understand its meaning to be as defined exclusively as in the Definitions section of 40 CFR Part 60, Subpart OOOO.*

Response: Your understanding of the definition of the term, “completion” is correct. 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.

42. Question: *A drilled, but not fractured well, even though capped, is not considered shut in. If a well is drilled, but is not hydraulically fractured until weeks or months later (very typical, we're told), the well will not be considered as "shut in" for purposes of starting the 180- day CDR period, until after hydraulically fracturing and subsequent flowback. Our rationale is based on the idea that a drilled well, even if capped or blocked off after drilling (the industry does call it shut in, even though temporary), is not going to be a source of fugitives because there is virtually no pressure in the well hole, therefore, there is virtually no potential for leakage. It follows that LDAR would be a waste of time because leaks are not physically possible at that point. The fact is the hydraulically fractured well will have flowback, after which the well is completed.*

Response: The owner or operator is required to demonstrate compliance with the Exemption Category No. 38 criteria using 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 day clock for compliance demonstration begins once flowback starts.

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 which is selling gas through temporary equipment designed for flowback, the well shall not be considered to be placed "into production" until the earlier of: (1) 30 days after 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.

The owners or operators of temporarily shut-in wells are 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 the leak as expeditiously as practicable but no later than 15 calendar days after it is detected for temporarily shut-in well.

43. Question: *Exploratory wells, wildcat wells, or delineation wells will still be subject to LDAR even if those wells are shut in and never deliver gas to gathering. The rationale is that the wells will be pressurized and therefore the equipment/valves that prevent the gas or liquids flow can potentially leak and therefore the well should still be subject to 60 day LDAR, the 180 day CDR and annual LDAR until the well is officially plugged per Oil & Gas standards. Is this correct?*

Response: The owners or operators 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 requirements including 40 CFR Part 60, Subpart OOOO requirements.

44. Question: *Even though 38 (b) sources are exempt, do they still have any compliance requirements?*

Response: Yes. The Exemption Category No. 38 (b) criteria are implemented through No. 38(d). This exemption allows owners or operators to commence the activities related to well drilling, completion, and other activities without any Air Quality permitting requirements as long as they comply with all of the Category No. 38 permit exemption criteria. It should be noted that completion activities are subject to 40 CFR Part 60, Subpart OOOO.

45. Question: *40 CFR 89.2 non-road engines CDR's are only required for engines that arrive once the Subpart OOOO well completion is achieved. We do not interpret the CDR reporting to encompass any engines on site pre-completion. We also think there really is no bang for the buck on requiring the registration/listing of these engines. Use of these engines is normally intermittent, short-term and infrequent on well pads. We would be happy to see CDR requirements go away for these engines. It is assumed that non-road engines exempt from 40 CFR 89 will have no compliance*

reporting requirements under Exemption 38 (even if they are subject to another standard somehow).

Response: The owner or operator of a non-road engine as defined in 40 CFR § 89.2 is not required to submit a compliance demonstration to the Department for these engines. However, as required by 25 Pa. Code § 135.3, the owner or operator is required to annual report emissions to the DEP for all sources, including exempted sources such as non-road engines, located at the facility. The annual source report must be submitted to DEP by March 1st each calendar year for emissions during the preceding calendar year. The natural gas emissions inventory and instructions are available at the following web site:

http://www.portal.state.pa.us/portal/server.pt/community/emission_inventory/21810.

46. Question: *For satisfying CDR, instead of operators submitting FLIR videos of before and after of leak repairs, we prefer that they have the option of retaining the videos in their files and then just produce the videos on request from the Department. The operators have stated they will provide written and appropriately descriptive documentation, and even still images, of the repair but the videos are unusually large files and sometimes will not even fit on a CD unless they take the time to tediously edit the clip and extract pertinent sections to a separate video file. We believe letting them retain the videos for inspection upon request is reasonable as we don't care to clutter up facility files with CD's, only to have file reviewers ask if they can view the video or copy the CD, etc. This could become cumbersome.*

Response: There is no need for an owner or operator to submit video footage from an imaging camera. The owner or operator must maintain the record for leaks, repair methods and repair delays for five years and make the records available to the Department upon request.

47. Question: *The CDR Guidance directs the O/O to send Air Quality the 24 hour notice required by Act 13 along with the Subpart OOOO Advance Notice on Flowback. Since the O/O already sends the well completion advance flowback notification required by 40 CFR 60 Subpart OOOO to the regional Air Program, it seems redundant to require the Act 13 notice be also sent. Since the Act 13 Notice is an O&G requirement, it doesn't get sent to the Air Program initially anyway, so we think it should be omitted from our CDR.*

Response: 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). In accordance with 40 CFR § 60.5420 (a) (2) (ii), notification to the DEP under Act 13 satisfies the notification requirement to EPA established in 40 CFR § 60.5420 (a) (2) (i).

48. Question: *The CDR Guidance directs the O/O to send Air Quality certain reports as part of the CDR. Since these reports will be included with the annual OOOO reporting, we think these*

particular reports can wait until they are sent in the annual OOOO report. Sending these reports two times seems unnecessary and will ultimately take up precious file space in the file rooms.

Response: Compliance with Category No. 38 exemption requirements is an applicable State requirement. Therefore, compliance must be demonstrated to DEP within 180 days after the well completion or installation of a source, in addition to the EPA's Annual Reporting requirements.

49. Question: *As I understand from the 40 CFR Subpart OOOO regulations, Notification and Reporting are required to be submitted to the Administrator (PA DEP), except the performance test data that must be reported to EPA's webFIRE database. Please let me know whether any additional notifications or reporting are required to be submitted to the EPA.*

Response: As required by the Exemption Category No. 38, the owner or operator will demonstrate compliance with the exemption criteria using any generally accepted model or calculation methodology within 180 days after the well completion or installation of a source. The owner or operator is also required to comply with all applicable state and federal requirements including notification, recordkeeping, and reporting requirements as specified in 40 CFR Part 60, Subpart OOOO. As stated in the Internal Implementation Instructions for Exemption Category No. 38, this initial compliance demonstration to the Department may be submitted electronically or via regular mail to the appropriate Regional Air Program Manager.

In accordance with 40 CFR § 60.5420, the owner or operator is required to submit all reports required by Subpart OOOO to the DEP. The owner or operator is required to submit results of the performance tests to the EPA by generating the submission package of the test data using the latest version of EPA's Electronic Reporting Tool (ERT) and submitting the package through Compliance and Emissions Data Reporting Interface (CEDRI). The owner or operator is also required to submit test results to the Department.

50. Question: *Is Exemption Category No. 38 applicable to any equipment such as a storage vessel or engine installed at a well pad after the effective date where the well is spud prior to the effective date of Exemption Category No. 38?*

Response: The Exemption Category No.38 criteria for unconventional well, wellhead, or associated equipment, and other sources, were finalized on August 10, 2013 (43 Pa. B. 4661). As a result, any unconventional well, wellhead, or associated equipment constructed after August 10, 2013 is subject to all of the Exemption Category No.38 criteria, including demonstration of compliance. Failure to demonstrate compliance with these criteria may require an owner or operator to apply for and receive a plan approval and operating permit before construction or operation may resume.

As provided in the Exemption Category No. 38, "[t]he owner or operator will also demonstrate compliance with the exemption criteria using any generally accepted model or calculation methodology within 180 days after the well completion or installation of a source."

The applicability date under the exemption criteria applies to the construction of each individual air contamination source, like a well, engine, or dehydration unit, and not to the entire facility, like the well pad. For example, if the owner or operator began actual construction of a well, well head or associated equipment on a well pad prior to August 10, 2013, that well, well head or associated equipment is not subject to the Exemption Category No.38 requirements. However, any well, well head or associated equipment constructed on that well pad after August 10, 2013 is subject to the Exemption Category No.38 criteria.

51. Question: *PADEP's May 8, 2014 letter clearly states that applicability applies to the construction of each individual air contamination source, not the facility. What is commenced construction for a well? Spud Date?*

Response: Commenced construction for a well is the date of commencement of well drilling.

52. Question: *What happens when a new heater, or generator, dehy, is installed at an existing well site not subject to revised Exemption 38. Does that addition trigger applicability to revised Exemption 38? If yes, is it only the new emission source that is required to meet the various conditions of revised Exemption 38?*

Response: The construction or reconstruction of each individual air contamination source, like a well, engine, heater, or dehydration that begins on the existing well pad after August 10, 2013, is subject to all of the criteria specified Exemption Category No. 38 including the compliance demonstration requirement.

Exemption Category No. 38 criteria apply only to the new, reconstructed, or modified air contamination source and not to the entire existing well pad equipment or source that was constructed prior to August 10, 2013.

53. Question: *What if modifications to existing equipment (change a reboiler, change out a burner, etc.) for maintenance and repair purposes are made at an existing well site? Does the modification trigger applicability to revised Exemption 38?*

Response: Exemption Category No. 38 criteria apply to the new, reconstructed, or modified air contamination source and not to the entire existing well pad that was constructed prior to August 10, 2013. The modification of the air contamination source that was constructed prior to August 10, 2013 will be evaluated on a case-by-case basis.

54. Question: *For applicability to revised Exemption 38, instead of using the date that the source commenced construction (was installed), can we use the date that the well/source was "put into production", or startup date since this date in some cases is easier to track? The "put into production" date is the "startup" date, and would be more conservative for determining applicability to new Exemption 38 than the date the well was constructed (completed/drilled) or*

production equipment set on pad. Can we also use this date to determine when the initial compliance report is due?

Response: For purposes of determining the applicability of the revised Exemption Category No. 38 (August 2013), the owner or operator must use the date when the well drilling commenced, and not the date when well was “put into production” or startup date.

The date when “well put into production” applies for the LDAR requirements established in Exemption Category No. 38 d. i.

55. Question: *Was the Department’s intent to conduct an aggregation analysis to apply to the 2.7 tpy, or to apply the 2.7 tpy threshold to each well site?*

Response: If two well sites are determined to be a single source then 2.7 tons VOC per year limit will be applicable to the combined VOC emissions from sources located at both well sites.

56. Question: *If aggregation analysis is required, what sources? Just well sites, or well sites, compressor stations, tank batteries, processing plants, etc.?*

Response: If two well sites or well site and compressor station, processing plant are determined to be a single source then the Aggregation Analysis is required for all sources located at both well sites or all sources at the well site and compressor station and processing plant.

57. Question: *Instead of 12-month rolling average emissions, can we use potential emissions and prove that potential emissions are not exceeded based on the annual actual air emission standards?*

Response: Any requests for alternative way of demonstrating compliance with 12-month rolling average emissions will be evaluated by DEP on a case-by-case basis.

58. Question: *Do maintenance activities, such as liquids unloading and miscellaneous blowdowns, need to be counted toward the 2.7 tpy limit? It is clear that fugitive emissions including pneumatic controllers and annulus venting are not included, per the FAQ document.*

Response: Liquid load out activities are not considered as maintenance activities. VOC emissions from truck load outs are required to comply with 95% VOC control requirement stated in condition d. ii of Exemption Category No. 38. Emissions from truck load outs are not accounted toward 2.7 tons per year VOC emissions threshold.

59. Question: *Temporary activities are unconditionally exempt for drilling and completions (and completions include well flowback). However, exploratory well tests are not explicitly*

addressed. Well tests could occur as part of flowback, or the well could be shut-in, and the well test could occur at a later date. Do well test emissions need to be part of the 2.7 tpy threshold?

Response: Temporary exploratory well tests are not required to comply with the exemption criteria established in Category No. 38. 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 requirements including 40 CFR Part 60, Subpart OOOO requirements.

Emissions from temporary exploratory test wells are not required to be accounted for 2.7 VOC emissions threshold.

60. Question: *What if the tank at a well site is not subject to Subpart OOOO, but is being controlled in order to claim Exemption 38. Do we still have to meet the AVO and Method 21 inspections required by Subpart OOOO for the non-Subpart OOOO storage tank?*

Response: As stated in Exemption Category No. 38 d. i, the owner or operator of a storage tank on a well pad is required to comply with the LDAR requirements using FLIR camera or other leak detection monitoring devices approved by the Department. Any leak detection and repair is required to be performed in accordance with 40 CFR Part 60, Subpart OOOO.

Therefore, even though the storage tank at well site that is not subject to Subpart OOOO, the owner or operator must perform LDAR in accordance with 40 CFR Part 60, Subpart OOOO including annual visual inspections and all other applicable requirements established in Exemption Category No. 38 d. i.

61. Question: *Instead of submitting initial compliance reports sporadically throughout the year, can we request the submission of one annual report or semi-annual reports, for all new well sites or sources claiming Exemption #38?*

Response: The owner or operator must demonstrate compliance with the exemption criteria using any generally accepted model or calculation methodology within 180 days after the well completion or installation of a source. The owner or operator may submit the initial compliance report semi-annually if all sources covered in report satisfy 180 days compliance demonstration requirement.

Miscellaneous Questions:

62. Question: *Please provide some guidance on the following circumstance: An existing, single gas compressor, located on a separate pad (i.e., not on a well pad), requiring renewal of GP-5.*

Response: An engine that is located at a separate pad and is authorized under a previous GP-5 is not eligible to be re-authorized under the current GP-5 if it is not used for mid-stream natural gas operations. Such an engine may either be exempted under Exemption Category No. 38 or the owner or

operator may apply for a State-only Operating Permit. In any event, a Plan Approval is not needed. Any engine associated with a conventional well is exempted from permitting requirements.

GP-5 may be authorized by DEP for engines located at a well pad provided the well pad is aggregated as a single facility with a mid-stream natural gas compression source. The gases must be collected and compressed from multiple well pads by the engine located at a well pad.

As indicated in the response to Questions 1 and 2 of this FAQ, GP-5 is applicable only to natural gas compression and/or processing facilities that are not major sources. GP-5 requirements, including quarterly leak detection and repair (LDAR), will be applicable to the entire facility, including sources located at the well pad. Exemption Category No. 38 criteria will not be applicable to sources located at the well pad because the sources are covered by GP-5. All emissions including leaks from the facility must be summed on a monthly basis to document that the facility continues to be a minor facility on a 12-month rolling basis.

63. Question: *What are the permitting requirements for NO_x emissions from a compressor located at a well pad that exceeds 6.6 TPY?*

Response: If NO_x emissions from a compressor located at a well pad exceed the threshold for Exemption Category No. 38 and the application of the subject compressor is for compression of gases from various well sites, the applicant may apply for authorization to use GP-5. If it is not eligible for a GP-5 authorization, the applicant should apply for a plan approval and a State-only Operating Permit.

GP-5 may be authorized by DEP for affected sources located on a well site if the well pad is aggregated as a single facility with a natural gas compression and/or processing facility. GP-5 is applicable only to natural gas compression and/or processing facilities that are not major sources. All the actual emissions from the facility must be summed to document that the facility continues to be a minor facility on a 12-month rolling basis.

64. Question: *Please provide some guidance on the following circumstances:*

A compressor, wells and gathering lines are all owned and operated by the same company. Gas is being compressed from 100+ conventional gas wells in the area, ranging in distance from 500 feet to 2 miles from compressor.

Is this a correct interpretation of the Department's policy that Department would aggregate emissions from the compressor with any wells located within ¼ mile of the compressor for purposes of a GP-5 permit?

Response: Single facility (source) determinations are made on a case-by-case basis using DEP's "Guidance for Performing Single Stationary Source Determination for Oil and Gas Industries." As per the guidance, properties located ¼ mile or less apart are considered contiguous or adjacent properties

for applicability determinations. Properties located beyond a ¼-mile range may only be considered contiguous or adjacent on a case-by-case basis.