

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY PROGRAM

GENERAL PLAN APPROVAL AND/OR GENERAL OPERATING PERMIT
BAQ-GPA/GP-5

Natural Gas Compression and/or Processing Facilities

SECTION A. GENERAL CONDITIONS

1. **Statutory/Regulatory Authority and General Description**

In accordance with Section 6.1(f) of the Air Pollution Control Act ("APCA"), 35 P.S. § 4006.1(f) and 25 Pa. Code Chapter 127, Subchapter H (relating to general plan approvals and general operating permits), the Department of Environmental Protection (hereinafter referred to as "Department" or "DEP") hereby issues this General Plan Approval and/or General Operating Permit ("General Permit" or "GP-5") for natural gas, compression and/or processing facilities (hereinafter referred to as "facility") constructed or operating in this Commonwealth.

2. **Definitions**

Words and terms that are not otherwise defined in this General Permit shall have the meanings set forth in Section 3 of the APCA (35 P.S. § 4003) and Title 25, Article III including 25 Pa. Code § 121.1 (relating to definitions) unless the context indicates otherwise. The meanings set forth in applicable definitions codified in the Federal Code of Regulations including 40 CFR Part 60 Subparts Kb, KKK, LLL, JJJJ, KKKK, and OOOO or 40 CFR Part 63 Subparts HH and ZZZZ shall also apply to this General Permit.

Coal bed methane – Methane that is released from the coal and surrounding rock strata.

Natural gas compression and/or processing facility – A facility that produces, compresses and/or processes natural gas, coal bed methane, or gob gas starting with gas dehydration, compression, fractionation, and storage.

3. **Applicability/Scope**

- (a) This General Permit authorizes the construction, modification, and/or operation of natural gas compression and/or a gas processing facility. The applicability of this General Permit may include any of the following:
- (i) Natural gas-fired spark ignition internal combustion engines (hereinafter referred to as "engine").
 - (ii) Natural gas-fired simple cycle turbines (hereinafter referred to as "turbine").

- (iii) Centrifugal compressors.
 - (iv) Storage vessels/tanks.
 - (v) Glycol dehydration units and associated equipment including Gas-Condensate-Glycol ("GCG") separators (Flash tank separators).
 - (vi) Natural gas fractionation process units (such as De-propanizer, De-ethanizer, De-butanizer).
 - (vii) Equipment leaks.
 - (viii) Pneumatic controllers.
 - (ix) Sweetening units.
- (b) If a source is exempted from plan approval requirements under *25 Pa. Code* § 127.14 (relating to exemptions), the authorization to use this GP-5 may be requested for the operation of the source.
- (c) If any source located at the natural gas, compression and/or processing facility cannot be regulated under this General Permit, a plan approval and/or an operating permit issued in accordance with *25 Pa. Code*, Chapter 127, Subchapter B (relating to plan approval requirements) and/or Subchapter F (relating to operating permit requirements) will be required.

4. Prohibited Use of GP-5

GP-5 may not be used for the construction, modification or operation of any of the following air contamination sources:

- (a) A proposed source located at a Title V facility.
- (b) A proposed source that is subject to Title V permitting requirements specified in *25 Pa. Code* Chapter 127, Subchapters F and G, prevention of significant deterioration and nonattainment new source review requirements specified in *25 Pa. Code* Chapter 127, Subchapters D (relating to prevention of significant deterioration) or E (relating to new source review).
- (c) Any engine or turbine that is used as a "peak shaving engine generator" or source participating in an Emergency and Economic Load Response Program.
- (d) Any engine or turbine that is used on a natural gas transmission line. Transmission line means a pipeline, other than a gathering line, that transports gas from a gathering line or storage facility to a distribution center, storage facility, or large volume customer that is not downstream from a distribution center.

5. General Plan Approval Best Available Technology Requirement

This General Permit establishes Best Available Technology ("BAT") requirements and authorizes the construction or modification of a natural gas compression and/or processing facility and any air cleaning devices that meet the BAT requirements established under *25 Pa. Code* §§ 127.1 and 127.12(a)(5).

The owner or operator of any existing facility for which a plan approval was previously issued pursuant to 25 Pa. Code § 127.11 (relating to plan approval requirements) shall continue to comply with the BAT requirements established in the previously issued plan approval if they are more stringent than the BAT requirements established in this General Permit.

6. General Operating Permit Requirements

Any facility or air contamination source that is constructed or modified under this General Permit may be operated on a temporary basis to facilitate shakedown of sources and air cleaning devices provided that the owner or operator notifies the Department in accordance with Section A, Condition 11 (relating to notice requirements) of this General Permit.

7. Municipal Notifications

A facility owner or operator proposing to use this General Permit shall notify the local municipality and county where the air pollution source is to be located that the applicant has applied for an authorization to use GP-5. The notification shall clearly describe the proposed sources and/or modifications. The owner or operator shall also submit to the Department proof of submittal of the municipal notification along with a copy of the Application for Authorization to Use GP-5.

8. Application for Use

Pursuant to 25 Pa. Code § 127.621 (relating to application for use of general plan approvals and general operating permits), any person proposing to construct, operate or modify a natural gas compression and/or processing facility listed in Condition 3 in Section A, under this General Permit shall submit to the Department the Application for Authorization to Use GP-5. This application shall be accompanied by the Compliance Review Form required under 25 Pa. Code §§ 127.12a (relating to compliance review) and § 127.412 (relating to compliance review forms), appropriate application fees specified in Section A, Condition 13 of this General Permit, proof of the municipal notification and any additional forms and information requested by the Department. This General Permit authorizes the specific sources and the specific location of the facility as described in the application.

9. Compliance Requirements

- (a) The owner or operator authorized to use this General Permit shall comply with the specifications in the application and terms and conditions of this General Permit.
- (b) All sources and associated air pollution control equipment located at a natural gas compression and/or processing facility shall be:
 - (i) Operated in such a manner as to not cause air pollution, as that term is defined in 25 Pa. Code § 121.1;

- (ii) Operated and maintained in accordance with the manufacturer's specifications, procedures, recommended maintenance schedule, and the specifications in the Application for Authorization to Use GP-5, or an alternate procedure approved by the Department that achieves equal or greater emission reductions;
 - (iii) Operated and maintained in such a manner that no owner or operator may permit the emission into the outdoor atmosphere of any malodorous air contaminants from any source such that the malodors are detectable outside the property of the owner or operator on whose land the facility is being operated in accordance with 25 Pa. Code § 123.31 (relating to odor emissions); and
 - (iv) Operated and maintained in accordance with the fugitive emission requirements of 25 Pa. Code § 123.1 (relating to prohibition of certain fugitive emissions) and 25 Pa. Code § 123.2 (relating to fugitive particulate matter).
- (c) The emissions from all sources and associated air pollution control equipment located at a natural gas compression and/or processing facility shall not equal or exceed any of the following on a 12-month rolling sum basis:
- (i) Nitrogen oxides (NO_x) – 100 tons.
 - (ii) Carbon monoxide (CO) – 100 tons.
 - (iii) Sulfur oxides (SO_x) – 100 tons.
 - (iv) Particulate matter with an aerodynamic diameter less than 10 microns (PM₁₀) – 100 tons.
 - (v) Particulate matter with an aerodynamic diameter less than 2.5 microns (PM_{2.5}) – 100 tons.
 - (vi) Volatile organic compounds (VOCs) – 50 tons.
 - (vii) Any individual hazardous air pollutant (HAP) – 10 tons.
 - (viii) Total hazardous air pollutants (HAPs) – 25 tons.
 - (ix) Greenhouse gases, expressed as carbon dioxide equivalent (CO₂e) – 100,000 tons.
 - (x) In addition, the emissions from all sources and associated air pollution control equipment located at a natural gas compression and/or processing facility in Bucks, Chester, Delaware, Montgomery, or Philadelphia counties shall not equal or exceed any of the following on a 12-month rolling sum basis:

(A) Nitrogen oxides (NO_x) – 25 tons.

(B) Volatile organic compounds (VOCs) – 25 tons.

10. Modification, Suspension, Revocation of GP-5 and Authorizations to Use the General Permit

- (a) The Department may modify, suspend, or revoke and reissue this General Permit if it is determined that GP-5 does not comply with the Clean Air Act, Air Pollution Control Act or regulations adopted under these acts.
- (b) This General Permit may be modified, suspended, or revoked if the Department determines that the natural gas compression and/or processing facilities cannot be adequately regulated under this General Permit.
- (c) An authorization to construct and/or operate a natural gas compression and/or processing facility under this General Permit may be suspended or revoked if the Department determines that, at any time, the owner or operator has failed to construct and/or operate the facility in compliance with the terms and conditions of this General Permit or information identified in the Application for Authorization to Use GP-5, or supplemental material included with the application that the Department used to determine if the proposed sources will comply with the GP-5.
- (d) Upon suspension or revocation of authorization to construct and/or operate a natural gas compression and/or processing facility under this General Permit, the owner or operator shall cease construction immediately of the facility. The owner or operator of the facility shall not restart the construction and/or operation prior to receipt of written approval from the Department.

11. Notice Requirements

- (a) The applications and notifications required by 25 Pa. Code § 127.621 and Section A, Condition 5 of this General Permit shall be submitted to the appropriate DEP Regional Office responsible for issuing authorizations to use general permits in the county in which the natural gas compression and/or processing facility is or will be located.
- (b) As required under 25 Pa. Code § 127.621(b), the application shall be either by hand delivery or courier (i.e., Federal Express, United Parcel Service, United States Postal Service, etc.) to the Department or sent by certified mail, return receipt requested.
- (c) The owner or operator shall notify the Department, in writing, no later than five (5) business days after the following activities:
 - (i) Initial commencement date of construction of the source(s) authorized under this General Permit.

- (ii) Final completion date of construction.
 - (iii) Any lapse in construction activity of eighteen (18) months or more that may take place in between the initial and start-up dates in (a) and (b) above.
- (d) At least five (5) business days prior to commencing operation of the source or facility, the owner or operator shall provide a written notification to the Department of the intent to commence operation of the natural gas compression and/or processing facility authorized by this General Permit . When multiple sources at the facility are subject to different commencement of operation schedules, written notice shall be submitted to DEP prior to the commencement of operation of each source.
- (e) *Malfunctions.* The owner or operator shall notify the Department by telephone within twenty-four (24) hours of the discovery of any malfunction at a natural gas compression and/or processing facility operating pursuant to this General Permit, or any malfunction of pollution control equipment associated with a facility, which results in, or may possibly be resulting in, the emission of air contaminants in excess of any applicable limitation specified herein. Following the telephone notification, a written notice also be submitted to DEP as specified below.
- (i) If the owner or operator is unable to provide notification by telephone to the appropriate Regional Office within twenty-four (24) hours of discovery of a malfunction due to a weekend or holiday, the notification shall be made to the Department by no later than 4 p.m. on the first business day for the Department following the weekend or holiday.
 - (ii) Any malfunction that poses an imminent danger to the public health, safety, welfare, or environment shall be reported by telephone to the Department and the County Emergency Management Agency immediately after the discovery of an incident. The owner or operator shall submit a written report of instances of such malfunctions to the Department within three (3) business days of the telephone report.
 - (iii) Unless otherwise required by this General Permit, any other malfunctions shall be reported to the Department, in writing, within five (5) business days of malfunction discovery.

12. Term of Authorization to Use General Permit

The authorization to construct and/or operate a natural gas compression and/or processing facility under this General Permit is granted for a fixed period of five (5) years except that the authorization to construct a facility will expire eighteen (18) months from the date of the Department authorization if the owner or operator fails to commence construction. If construction commences within eighteen (18) months of the date of receipt of authorization from the Department, but it is not yet completed, the authorization to construct the facility under this General Permit is automatically extended, provided there is no subsequent lapse in construction

activity of eighteen (18) months or more, up to a maximum of five (5) years from the date of Department authorization. If the construction, modification or installation is not commenced within eighteen (18) months of the authorization of this GP-5 or if there is more than an 18-month lapse in construction, modification or installation, a new application for authorization of GP-5 shall be submitted. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified.

13. General Permit Fees

Each applicant seeking authorization to use GP-5 shall submit the applicable fees required under this condition to the appropriate DEP regional office. The following fees schedule applies to this General Permit:

- (a) General Plan Approval application fee:
One thousand and seven hundred dollars (\$1,700)
- (b) General Operating Permit fee:
Three hundred and seventy-five dollars (\$375)
- (c) Annual operating permit administration fee, payable by March 1st for the previous calendar year:
Three hundred and seventy-five dollars (\$375)
- (d) The Department may increase the applicable fees for this General Plan Approval/General Permit in accordance with the applicable fee schedules in *25 Pa. Code* Chapter 127, Subchapter I (relating to plan approval and operating permit fees) following notice in the *Pennsylvania Bulletin*.

14. Recordkeeping and Reporting Requirements

The owner or operator of the facility shall maintain records that clearly demonstrate to the Department that the facility is not a Title V facility. In addition, the owner or operator of the facility shall keep records to verify compliance with the facility-wide emission limitations. These records shall be maintained at a minimum on a monthly basis and the emissions shall be calculated on a 12-month rolling sum. These records shall be retained for a minimum of five (5) years and shall be made available to the Department upon request. The Department reserves the right to request additional information necessary to determine compliance with this General Permit.

15. Annual Source Reporting Requirements

In accordance with *25 Pa. Code* § 135.3, the owner or operator of natural gas compression and/or natural gas processing facilities shall submit to the Department by March 1st each year a source report for the preceding calendar year for all sources regulated under this General Permit. The report shall include all emissions information for all previously reported sources and new sources which were first operated during the preceding calendar year. Emissions data including, but not limited to the following, shall be reported: carbon monoxide,

oxides of nitrogen ("NO_x"), particulate matter less than 10 micrometers in diameter (PM₁₀), particulate matter less than 2.5 micrometers in diameter (PM_{2.5}), sulfur dioxide, volatile organic compounds, total hazardous air pollutants ("HAP"), speciated individual HAP emissions, and greenhouse gases, expressed as CO_{2e}.

16. Public Records and Confidential Information

- (a) As required under Section 13.2 of the APCA, 35 P.S. § 4013.2, the records, reports or information obtained by the Department under this General Permit shall be available to the public, except as provided in paragraph (b) of this condition.
- (b) Upon cause shown by the owner or operator that the records, reports or information, or a particular portion thereof, but not emission data, to which the Department has access under the APCA, if made public, would divulge production or sales figures or methods, processes or production unique to that person or would otherwise tend to affect adversely the competitive position of that person by revealing trade secrets, including intellectual property rights, the Department will consider the record, report or information, or particular portion thereof confidential in the administration of the APCA.

17. Circumvention

- (a) The owner or operator of a natural gas compression and/or processing facility may not circumvent the new source review requirements of 25 Pa. Code Chapter 127, Subchapter E by causing or allowing a pattern of ownership or development, including the phasing, staging, delaying or engaging in incremental construction over a geographic area of a facility which, except for the pattern of ownership or development, would otherwise require a permit or submission of a plan approval application.
- (b) No person may permit the use of a device, stack height that exceeds good engineering practice stack height, dispersion technique or other technique that without resulting in reduction of the total amount of air contaminants emitted, conceals or dilutes an emission of air contaminants that would otherwise be in violation of this plan approval, the Air Pollution Control Act or the regulations promulgated thereunder, except that with prior written approval of the Department, the device or technique may be used for control of malodors.

18. NSPS and NESHAP Submittals

- (a) The owner or operator of a natural gas compression and/or processing facility shall submit to the appropriate DEP Regional Air Quality Office requests, reports, applications, submittals and other communications concerning applicable New Source Performance Standards and National Emissions Standards for Hazardous Air Pollutants.

- (b) In accordance with 40 CFR § 60.4 (relating to address) and 40 CFR § 63.10 (relating to recordkeeping and reporting requirements) copies of all requests, reports, applications, submittals and other communications shall also be submitted to the EPA Region III Office. Copies submitted to EPA shall be sent to the following address:

Office of Air Enforcement and Compliance Assistance (3AP20)
United States Environmental Protection Agency
Region III
1650 Arch St.
Philadelphia, PA 19103-2029

19. Emission Limitations and/or Operating Requirements Previously Established for Best Available Technology and/or to Restrict Operations

- (a) This General Permit cannot be used to relax best available technology or other emission limitations or requirements previously established through the air quality permitting process.
- (b) An owner or operator of a natural gas compression and processing facility may apply to the Department for a plan approval for any air contamination source in lieu of seeking authorization to use the general plan approval for natural gas compression and/or processing facilities.

20. Transfer of Ownership

The authorization to use GP-5 may not be transferred from the owner or operator of a natural gas compression and processing facility except when the change of ownership is demonstrated to the satisfaction of the Department and the Department approves the transfer of the authorization in writing. Within thirty (30) days after a change of ownership of the facility, the new owner or operator shall submit to the Department a GP-5 Application, compliance review form, and applicable fees in accordance with Condition 13 of this General Permit.

21. Expiration and Re-authorization of the Use of GP-5

- (a) The authorization granted by the Department to construct and/or operate under this General Permit shall terminate on the date of expiration of the authorization unless a complete application for the use of GP-5 is submitted to the Department at least thirty (30) days prior to the expiration date of the authorization.
- (b) Upon receipt by the Department of a timely and administratively and technically complete application for re-authorization to operate under this General Permit, the owner or operator may continue to operate the natural gas compression and/or processing facility subject to final action by the Department on the GP-5 application provided that the facility is operated in compliance with all terms and conditions of this General Permit. The authorization to use GP-5 shall cease to exist if the owner or operator fails to

submit, by the deadline specified by the Department, any additional information requested by the Department to process the application.

22. Source Test Requirements

The owner or operator of any source subject to performance testing requirements in this General Permit shall comply with the following:

- (a) Within one hundred eighty (180) days after the initial startup of the engine or turbine, the owner or operator shall demonstrate compliance with the applicable emission limits and furnish the Department a written report of the result of such performance test.
- (b) At least thirty (30) calendar days prior to commencing an emission testing program to demonstrate compliance required by this General Permit, a Test Protocol shall be submitted to the Department's Division of Source Testing and Monitoring and the appropriate Regional Office for review and approval. The Test Protocol shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual. The emissions testing shall not commence prior to receipt of a protocol acceptance letter from the Department.
- (c) At least fifteen (15) calendar days prior to commencing an emission testing program to demonstrate compliance required by this General Permit, written notification of the date and time of testing shall be provided to the Department's appropriate Regional Office. Notification, in writing, shall also be sent to the Department's Bureau of Air Quality, Division of Source Testing and Monitoring, so that an observer may be present. The Department is under no obligation to accept the results of any testing performed without adequate advance written notice to the Department of such testing.
- (d) Within fifteen (15) calendar days after completion of the on-site testing portion of an emission test program to demonstrate compliance required by this General Permit, if a complete test report has not yet been submitted, an electronic notification shall be sent to the Department's Division of Source Testing and Monitoring and the appropriate Regional Office indicating the completion date of the on-site testing.
- (e) A complete test report shall be submitted to the Department's Division of Source Testing and Monitoring and the appropriate Regional Office no later than sixty (60) calendar days after completion of the on-site testing portion of an emission test program required by this General Permit.
- (f) The complete test report shall include a summary of the emission results at the beginning of the report indicating if each pollutant measured is within permitted limits and a statement of compliance or non-compliance with all applicable permit conditions. The summary results will include, at a minimum, the following information:

- (i) A statement that the owner or operator has reviewed the report from the emissions testing company and agrees with the findings;
 - (ii) Permit number(s) and condition(s) that are the basis for the evaluation;
 - (iii) Summary of results with respect to each applicable permit condition;
and
 - (iv) Statement of compliance or non-compliance with each applicable permit condition.
- (g) All submittals with the exception of periodic monitoring data shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.
- (h) All testing with the exception of periodic monitoring shall be performed in accordance with any applicable federal regulations (such as New Source Performance Standards), 25 Pa. Code, Chapter 139, and the current revision of the Department's Source Testing Manual or an alternative test method as approved by the Department. The owner or operator of the facility shall use the following federal reference methods or alternative test methods approved, in writing, by the Department to demonstrate compliance:

40 CFR Part 60, Appendix A, Method 5 and EPA Test Method 202 shall be used to determine the Total Particulate Matter emissions.

40 CFR Part 60, Appendix A, Method 7E shall be used to determine the nitrogen oxide (NO_x) emissions.

40 CFR Part 60, Appendix A, Method 10 shall be used to determine the carbon monoxide (CO) emissions.

40 CFR Part 60 Methods 25A and 18 or 40 CFR Part 60 Method 25A and 40 CFR Part 63 Method 320 shall be used to determine the NonMethane Non-Ethane Hydrocarbon (NMNEHC) emissions.

40 CFR Part 63 Appendix A, Method 320 or Method 328 shall be used to determine the Formaldehyde (HCHO) emissions.

- (i) Reports, protocols and test completion notification with the exception of periodic monitoring data shall be submitted through PSIMS*Online available through <https://www.depgreenport.state.pa.us/ecomm/Login.jsp>. If internet submittal is not feasible, copies of the submittal shall be sent to the appropriate Pennsylvania Department of Environmental Protection Regional Office and to the attention of the Department's Bureau of Air Quality, Division of Source Testing and Monitoring, 400 Market Street, 12th Floor Rachel Carson State Office Building, Harrisburg, PA 17105-8468, with deadlines verified through document postmarks.

- (j) The owner or operator shall ensure that all applicable federal reporting requirements are followed, including timelines more stringent than those contained herein. In the event of an inconsistency or any conflicting requirements between federal and state laws and regulation, the owner or operator shall comply with the most stringent provision, term, condition, method or rule.
- (k) If, at any time, the Department has notified the owner or operator that the air contaminant emissions from the source operating under this General Permit are, or may be, in excess of any applicable air contaminant emission limitation, the owner or operator shall conduct source tests deemed necessary by the Department to determine the actual air contaminant emission rate. The testing shall be conducted in accordance with the applicable provisions of 25 *Pa. Code*, Chapter 139 (relating to sampling and testing) as well as in accordance with any additional requirements or conditions established by the Department at the time the owner or operator is notified, in writing, of the need to conduct testing.

23. Applicable Laws

Nothing in this General Permit relieves the facility owner or operator from the obligation to comply with all applicable Federal, state and local laws and regulations including 25 *Pa. Code* Article III (relating to air resources). Applicable Federal regulations include, but are not limited to, the following New Source Performance Standards codified at 40 CFR Part 60 (incorporated by reference in 25 *Pa. Code* § 122.3) and National Emission Standards for Hazardous Air Pollutants codified at 40 CFR Part 63 (incorporated by reference in 25 *Pa. Code* § 127.35):

- (a) 40 CFR Part 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.
- (b) 40 CFR Part 60, Subpart KKK – Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants.
- (c) 40 CFR Part 60, Subpart LLL – Standards of Performance for Onshore Natural Gas Processing: SO₂ Emissions
- (d) 40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.
- (e) 40 CFR Part 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines.
- (f) 40 CFR Part 60, Subpart OOOO – Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.

- (g) 40 CFR Part 63, Subpart HH – National Emissions Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities.
- (h) 40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines.

SECTION B. REQUIREMENTS FOR NATURAL GAS-FIRED SPARK IGNITION INTERNAL COMBUSTION ENGINES

1. Emission Standards for Existing Engines

In accordance with 25 *Pa. Code* §§ 127.1 and 127.12(a)(5), any existing engine operating under GP-5 authorizations approved by the Department prior to the issuance of this General Permit shall continue to comply with the emissions standards and other requirements in Condition 1(a) or 1(b) of this section.

- (a) The engine shall be operated or equipped with air cleaning devices to meet the following emission levels:
 - (i) Oxides of Nitrogen (“NO_x”) (as NO₂) at rated brake horsepower (bhp) and operating at rated speed of two (2.0) grams per bhp-hour (gm/bhp-hr).
 - (ii) Non Methane Hydrocarbon excluding formaldehyde (NMHC) (as propane) at rated bhp and operating at rated speed of two (2.0) gm/bhp-hr.
 - (iii) Carbon Monoxide (“CO”) at rated bhp and operating at rated speed of two (2.0) gm/bhp-hr.
- (b) At operating conditions less than rated capacity, internal combustion engines shall, on a pounds-per-hour basis, emit no more than they emit at rated bhp and rated speed.
- (c) In accordance with 25 *Pa. Code* §§ 127.1 and 127.12(a)(5), visible emissions shall not exceed either of the following limitations:
 - (i) Equal to or greater than 10 percent for a period or periods aggregating more than three (3) minutes in any one hour.
 - (ii) Equal to or greater than 30 percent at any time.
- (d) The owner or operator of the engine shall comply with the applicable Standards of Performance (“NSPS”) for Stationary Spark Ignition Internal Combustion Engines specified in 40 CFR Part 60, Subpart JJJJ, and/or the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Stationary Spark Ignition Internal Combustion Engines specified in 40 CFR Part 63, Subpart ZZZZ.

2. Emission Standards for New Stationary Engines

- (a) In accordance with 25 Pa. Code §§ 127.1 and 127.12 (a) (5), a new engine for which construction or reconstruction commenced after the effective date of this General Permit shall not exceed the emissions standards specified in the following table:

Engine Type	Rated bhp	NO _x	CO	NMNEHC as propane (excluding HCHO)	HCHO
NG-fired Lean and Rich burn	≤100	2.0 gm/bhp-hr	2.0 gm/bhp-hr	-	-
NG-fired Lean-burn	>100 to ≤500	1.0 gm/bhp-hr	2.0 gm/bhp-hr	0.70 gm/bhp-hr	-
NG-fired Lean-burn	>500	0.50 gm/bhp-hr	47 ppmvd @ 15% O ₂ or 93% reduction	0.25 gm/bhp-hr	0.05 gm/bhp-hr
NG-fired Rich-burn	>100 to ≤500	0.25 gm/bhp-hr	0.30 gm/bhp-hr	0.20 gm/bhp-hr	
NG-fired Rich-burn	>500	0.20 gm/bhp-hr	0.30 gm/bhp-hr	0.20 gm/bhp-hr	2.7 ppmvd @ 15% O ₂ or 76% reduction

- (b) The owner or operator of the engine shall also comply with all other applicable NSPS requirements established in 40 CFR Part 60, Subpart JJJJ, Subpart OOOO, and the NESHAP requirements in 40 CFR Part 63, Subpart ZZZZ.
- (c) In accordance with 25 Pa. Code §§ 127.1 and 127.12(a)(5), visible emissions from the engine shall not exceed either of the following limitations:
- (i) Equal to or greater than 10 percent for a period or periods aggregating more than three (3) minutes in any one (1)-hour; and
 - (ii) Equal to or greater than 30 percent at any time.

3. Start-up and Shut-down Exception for Engines

The emission limitations specified in Section B, Conditions 1 and 2 of this General Permit shall apply at all times except during periods of start-up and shut-down provided that the duration of start-up and shut down does not exceed 30 minutes per occurrence. The owner or operator shall operate the engine in a manner consistent with good air pollution control practices for minimizing emissions at all times, including periods of startup and shutdown. The emissions from start-up and shut-down shall be included in the 12-month rolling sum of emissions. The owner

or operator of the engine shall comply with all applicable start-up and shut-down requirements in accordance with 40 CFR Part 60, Subpart JJJJ, and 40 CFR Part 63, Subpart ZZZZ.

4. Performance Testing Requirements for Engines

- (a) For a new or reconstructed engine which has a rated capacity less than or equal to 500 brake horsepower, vendor guarantees or Department-approved data from test conducted within 12-months on an identical engine for NO_x, CO, and NMHC or NMNEHC shall be sufficient to verify emissions rates. However, the Department reserves the right to require additional information to verify any emission rates that may include source testing in accordance with applicable provisions of 25 *Pa. Code* Chapter 139 (relating to sampling and testing). The vendor guarantees shall not be construed to satisfy the engine certification requirements specified in 40 CFR § 60.4243.
- (b) For a new or reconstructed engine which has a rated capacity greater than 500 brake horsepower, within one hundred eighty (180) days after initial start-up or re-authorization of this General Permit, the owner or operator shall perform source testing on each affected engine in accordance with applicable provisions of 25 *Pa. Code* Chapter 139 (relating to sampling and testing) on each affected engine for NO_x, CO, HCHO, and NMHC or NMNEHC and furnish the Department a written report of the result of such performance test. Engine testing load conditions shall be representative to within 10 percent of 100% peak or the highest achievable load. The source testing shall be conducted in accordance with the requirements specified in Conditions 21 and 22 in Section A of this General Permit.
- (c) In addition to the source testing required by Condition 4(b) of Section B, every 2,500 hours of operation and no sooner than forty-five (45) days from the previous test, the owner or operator shall perform periodic monitoring for NO_x and CO emissions to verify continued compliance upon each of the respective engines which has a rated capacity greater than 500 brake horsepower and subject to the BAT as specified in Section B, Conditions 1 and 2 of this General Permit. A Department-approved test that has been performed within 45 days prior to the scheduled periodic monitoring may be used in lieu of the periodic monitoring for that time period. A portable gas analyzer may be used to satisfy the requirements of this condition utilizing three test runs of twenty (20) minutes for each test run. The Department may alter the frequency of portable analyzer tests based on the test results. The frequency of portable gas analyzer tests may be altered with written Departmental approval. The portable gas analyzer shall be used and maintained according to the manufacturer's specifications and the procedures specified in ASTM D 6522 or equivalent as approved by the Department.
- (d) Within thirty (30) calendar days after the completion of periodic monitoring, the owner or operator shall submit the results to the appropriate DEP Regional Office. The Department reserves the right to require source tests in

accordance with EPA reference methods should the data from the portable analyzer warrant such tests.

5. Work Practice and Monitoring Requirements for Engines

- (a) In accordance with 25 Pa. Code §§ 127.1 and 127.12(a)(5), the owner or operator of a new or reconstructed natural gas-fired engine shall install, maintain, and operate each engine and associated air pollution control equipment in accordance with manufacturer's specifications.
- (b) The owner or operator shall maintain comprehensive accurate records of number of hours per month that each engine operated using a non-resettable hour meter, the amount of each fuel type that is used per month in each engine, the date the GP-5 authorization was issued, the date construction began, the date of initial startup, the date testing is required, parameters required to be tested, and the date testing was performed for each engine.
- (c) In accordance with 25 Pa. Code §§ 127.1 and 127.12(a)(5), the owner or operator of an engine shall comply with the monitoring requirements specified in 40 CFR §§ 60.4237 and 63.6625.

6. Notification, Recordkeeping and Reporting Requirements for Engines

- (a) The owner or operator of an engine shall also comply with the applicable notification, reporting, and recordkeeping requirements specified in 40 CFR §§ 60.4245 and 63.6645.
- (b) Submittal of reports in accordance with the requirements and schedules outlined in this General Permit.
- (c) These records shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION C. REQUIREMENTS FOR NATURAL GAS-FIRED SIMPLE CYCLE GAS TURBINES

1. Emissions Standards for Turbines

The owner or operator of a new or reconstructed turbine with a rated capacity equal to or greater than 1000 bhp or 10.7 gigajoules per hour (10 MMBtu/ per hour), based on the higher heating value (HHV) of the fuel that commenced construction, modification, or reconstruction after February 18, 2005, shall comply with applicable requirements specified in 40 CFR Part 60, Subpart KKKK.

- (a) In accordance with 25 Pa. Code §§ 127.1 and 127.12(a)(5), the owner or operator of a new or reconstructed turbine shall not exceed the following emissions standards:

Turbine Size (BHP)	NO _x ppmvd corrected at 15% O ₂	CO ppmvd corrected at 15% O ₂	NMNEHC (as Propane) ppmvd corrected at 15% O ₂	Total Particulate Matter Lbs/MMBtu
≥1,000 and <5,000	25	25	9	0.03
≥5,000 and <15,000	15	25	9	0.03
≥15,000	15	10 ppm or 93% reduction	5 ppm or 50% reduction	0.03

(b) Compliance with the emissions standards in this section shall be considered compliance with the NSPS emissions standards specified in 40 CFR Part 60, Subpart KKKK and 25 Pa. Code Chapter 122 (relating to national standards of performance for new stationary sources).

2. Start-up and Shut-down Exception for Turbines

The emission limitations specified in Section C, Condition 1 of this General Permit shall apply at all times except during periods of start-up and shut-down, provided, however, that the duration of start-up and shut-down do not exceed thirty (30) minutes per occurrence. The turbine shall be operated in a manner consistent with good air pollution control practices for minimizing emissions, at all times, including periods of startup, shutdown, and malfunction. The emissions from start-up and shut-down shall be included in the 12-month rolling sum of emissions. The owner or operator of a turbine shall comply with all applicable start-up and shut-down requirements in accordance with 40 CFR Part 60, Subpart KKKK.

3. Performance Testing Requirements for Turbines

(a) For a new or reconstructed turbine, within one hundred eighty (180) days after initial start-up or re-authorization of this General Permit, the owner or operator shall perform source testing on each affected turbine for NO_x, CO, NMNEHC, Total Particulate Matter, and furnish the Department a written report of the results of such performance testing. Turbine testing load conditions shall be within 10 percent of the 100% peak or the highest achievable load. The source testing shall be conducted in accordance with the requirements specified in Conditions 21 and 22 of Section A in this General Permit.

(b) In addition to the source testing required by this condition, every 2,500 hours of operation and no sooner than forty-five (45) days from the previous test, the owner or operator shall perform periodic monitoring for NO_x and CO emissions to verify that each turbine is in compliance with the BAT requirements established in Section C, Condition 1 of this General Permit for turbines. If a Department-approved test has been performed within 45 days prior to the scheduled periodic monitoring, this test may be used in lieu of the periodic monitoring for that time period.

A portable gas analyzer may be used to satisfy the requirements of this condition utilizing three 20-minute test runs. The Department may alter the frequency of portable analyzer tests based on the results. The portable gas analyzer shall be maintained according to the manufacturer's specifications and the procedures specified in ASTM D 6522 or equivalent as approved by the Department. The Department may also waive all or parts of this requirement if the owner or operator demonstrates compliance, in lieu of testing, through alternate means satisfactory to the Department.

- (c) Within thirty (30) calendar days after the completion of periodic monitoring, the owner or operator shall submit the results to the appropriate DEP Regional Office. The Department reserves the right to require source tests in accordance with EPA reference methods should the data from the portable analyzer warrant such tests.

4. Work Practice and Monitoring Requirements for Turbines

- (a) In accordance with 25 Pa. Code §§ 127.1 and 127.12(a)(5), the owner or operator of a new or reconstructed turbine shall install, maintain, and operate the turbine and associated air pollution control equipment in accordance with manufacturer's specifications.
- (b) The owner or operator shall maintain comprehensive, accurate records of number of hours per month that each turbine operated using a non-resettable hour meter, amount of each fuel type that is used per month in each, date GP-5 issued, date construction began, date of initial startup, date testing is required, parameters required to be tested, and date testing was performed for each turbine.
- (c) The owner or operator of any turbine shall comply with the applicable monitoring requirements specified in 40 CFR §§ 60.4335 through 60.4370.

5. Notification, Recordkeeping and Reporting Requirements for Turbines

- (a) The owner or operator of a turbine shall comply with the notification, reporting, and recordkeeping requirements specified in 40 CFR §§ 60.4245 and 63.6645.
- (b) Submittal of reports in accordance with the requirements and schedules outlined in this General Permit.
- (c) These records shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION D. REQUIREMENTS FOR CENTRIFUGAL COMPRESSORS

The owner or operator of centrifugal compressors shall also comply with the applicable requirements specified in 40 CFR Part 60, Subpart OOOO.

SECTION E. REQUIREMENTS FOR STORAGE VESSELS / STORAGE TANKS

The owner or operator of each storage vessel / storage tank shall also comply with the applicable requirements specified in 40 CFR Part 60, Subparts Kb and OOOO and 40 CFR Part 63, Subpart HH (relating to national emission standards for hazardous Air pollutants from oil and natural gas production facilities).

1. In accordance with 25 Pa. Code §§ 127.1 and 127.12(a)(5), the owner or operator of each storage tank with a capacity greater than 40,000 gallons shall also comply with the requirements specified in 25 Pa. Code § 129.56.
2. In accordance with 25 Pa. Code §§ 127.1 and 127.12(a) (5), the owner or operator of each storage tank with a capacity less than or equal to 40,000 gallons shall also comply with the requirements in 25 Pa. Code § 129.57.

SECTION F. REQUIREMENTS FOR GLYCOL DEHYDRATORS

1. The owner or operator of each glycol dehydrator located at natural gas compression and/or processing facility shall comply with the applicable requirements established in 40 CFR Part 63, Subpart HH. The owner or operator of each glycol dehydrator located at natural gas compression, and/or processing facility shall also comply with the visible emissions and malodor requirements in Conditions 2 (d) and (e) of this section.
2. The owner or operator of any existing glycol dehydrator, which has a total uncontrolled potential emission rate of VOC in excess of ten (10) tons per year, and authorized to operate under previously issued GP-5, shall continue to comply with the emissions standards and other requirements in paragraph (a) through (j) of this condition and any applicable requirements established in 40 CFR Part 63, Subpart HH.
 - (a) The VOC emissions from the glycol dehydrator still vent stream shall be controlled either by at least 85% with a condenser, a flare or other air cleaning device, or any alternative methods as approved by the Department. This control efficiency requirement must be demonstrated to the satisfaction of the Department.
 - (b) A glycol dehydrator using a condenser as an air cleaning device shall daily achieve an average final exhaust temperature of less than 110 degrees Fahrenheit (110 °F).
 - (c) A glycol dehydrator using a flare as an air cleaning device shall ensure destruction of VOC emissions to the flare stack by maintaining the heat content of the flare gas above 300 Btu/scf. The owner or operator shall document daily visual observations of the continuous presence of a flame. Alternatively, the owner or operator may equip the flare with a heat sensing monitoring device with a continuous recorder that indicates the continuous ignition of the pilot flame. The flare shall be designed and operated in accordance with the applicable requirements in 40 CFR § 60.18.

- (d) Visible emissions from a glycol dehydrator using a flare shall not exceed either of the following limitations:
 - (i) Equal to or greater than 10% for a period or periods aggregating more than 3 minutes in any one hour.
 - (ii) Equal to or greater than 30% at any time.
 - (e) A glycol dehydrator shall not emit malodorous air contaminants in such a manner that the malodors are detectable outside the facility property.
 - (f) The owner or operator of a glycol dehydrator shall maintain records of the results of any testing conducted to determine compliance with paragraphs (a) through (e) of this condition.
 - (g) If a condenser is installed as an air cleaning device on a glycol dehydrator, the owner or operator shall maintain records of final exhaust temperature and time observed twice per week on different days during daylight hours.
 - (h) If a flare is used as an air cleaning device for the glycol dehydrator, the owner or operator shall maintain a record of daily visual observations of the continuous presence of a flame or a record of the continuous recorder that indicates the continuous ignition of the pilot flame.
 - (i) The owner or operator of the glycol dehydrator shall maintain records of the date of any maintenance and repair of the required air cleaning device and duration of uncontrolled emissions during such activities.
 - (j) The owner or operator of a glycol dehydrator shall maintain the following records:
 - (i) VOC emissions using GRI-GLYCalc computer software or an alternative method as approved by the Department.
 - (ii) A record of actual throughput per day and the glycol circulation rate.
3. The owner or operator of a new glycol dehydrator, which is not subject to the requirements established in 40 CFR Part 63, Subpart HH and has a total uncontrolled potential emission rate of VOC in excess of five (5) tons per year shall be controlled either by at least 95% with a condenser, a flare or other air cleaning device, or any alternative methods as approved by the Department. This control efficiency requirement must be demonstrated to the satisfaction of the Department. The owner or operator of a new glycol dehydrator shall also comply with the requirements in Condition 2 (b) through (j) of this section.
4. The owner or operator of a new glycol dehydrator, which is not subject to the requirements established in 40 CFR Part 63, Subpart HH and has a total uncontrolled potential VOC emission rate of equal to or less than five (5) tons per

year shall comply with the requirements in Condition 2 (d), (e), and (j) of this section.

SECTION G. REQUIREMENTS FOR ONSHORE NATURAL GAS PROCESSING PLANTS

In accordance with 25 Pa. Code §§ 127.11 and 127.12(a)(5), the owner or operator of a fractionation unit located at an onshore natural gas processing plant shall comply with 40 CFR Part 60, Subpart KKK – Standards of Performance for Equipment Leaks of VOCs from Onshore Natural Gas Processing Plants.

SECTION H. REQUIREMENTS FOR EQUIPMENT LEAKS

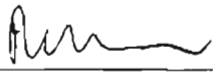
1. The owner or operator of the natural gas compression and/or processing facility shall, at a minimum, on a monthly basis perform a leak detection and repair program that includes audible, visual, and olfactory ("AVO") inspections.
2. Within 180 days after the initial startup of a source, the owner or operator of the facility shall, at a minimum on a quarterly basis, use forward looking infrared ("FLIR") cameras or other leak detection monitoring devices approved by the Department for the detection of fugitive leaks. The Department may grant an extension for use of FLIR camera upon receipt of a written request from the owner or operator of the facility documenting the justification for the requested extension.
3. If any leak is detected, the owner or operator of the facility shall repair the leak as expeditiously as practicable, but no later than fifteen (15) days after the leak is detected, except as provided in 40 CFR § 60.482-9. The owner or operator shall record each leak detected and the associated repair activity. These records shall be retained for a minimum of five (5) years and shall be made available to the Department upon request.

SECTION I. REQUIREMENTS FOR PNEUMATIC CONTROLLERS

The owner or operator of each pneumatic controller affected facility shall also comply with the applicable requirements specified in 40 CFR Part 60, Subpart OOOO.

SECTION J. REQUIREMENTS FOR SWEETENING UNITS

In accordance with 25 Pa. Code §§ 127.11 and 127.12(a)(5), the owner or operator of a sweetening unit shall also comply with the applicable requirements of 40 CFR Part 60, Subparts KKK and OOOO.

Approved by: 
Krishnan Ramamurthy
Chief, Division of Permits
Bureau of Air Quality

Date Approved: 02/01/2013 Date Corrected (Minor): 02/26/2013