

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY

**GENERAL PLAN APPROVAL AND/OR GENERAL OPERATING PERMIT  
(BAQ-GPA/GP – 5)**

**NATURAL GAS, COAL BED METHANE OR GOB GAS PRODUCTION OR RECOVERY  
FACILITIES**

**1. Statutory Authority and General Description**

In accordance with Section 6.1(f) of the Air Pollution Control Act, 35 P.S. § 4006.1(f), 25 *Pa. Code* §§ 127.514 and 127.611, the Department of Environmental Protection (“Department” or “DEP”) hereby issues this General Plan Approval and/or General Operating Permit for Natural Gas, Coal Bed Methane or Gob Gas Production or Recovery Facilities (hereinafter referred to as “General Permit”).

**2. Applicability/Source Coverage Limitations**

This General Permit authorizes the construction and/or operation of a natural gas, coal bed methane or gob gas production or recovery facility. Coal bed methane includes coal mine methane that is released from coal seams during the coal mining process.

This General Permit is limited to a facility engaged solely in the production of natural gas, coal bed methane or gob gas. BAQ-GPA/GP-5 does not apply to facilities operated as a part of a transmission pipeline (which shall not be construed to mean any gathering system or associated equipment) or gas storage field, nor does it cover the compression of other types of gases from landfills, refineries, coke ovens, etc. A natural gas, coal bed methane or gob gas production or recovery facility may include internal combustion (compressor) engines, gas dehydration units, crude oil and brine storage tanks, vents and other equipment associated with this activity.

This General Permit has been established in accordance with 25 *Pa. Code* Chapter 127, Subchapter H (relating to general plan approvals and operating permits). If the natural gas, coal bed methane or gob gas production or recovery facility cannot be regulated under the requirements of 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. If the Department determines that the facility is a Title V facility as defined in 25 *Pa. Code* §121.1, a Title V operating permit issued in accordance with 25 *Pa. Code* Chapter 127, Subchapters F and G (relating to Title V operating permits) will be required.

General Plan Approval

As required under 25 Pa. Code § 127.621(a), the Department's prior written approval must be obtained prior to operating under this General Plan Approval or Operating Permit. Following the receipt of DEP's written authorization to use this General Permit is granted, construction of the natural gas, coal bed methane or gob gas production or recovery facility designated in the application may proceed.

This General Permit authorizes the construction or modification of internal combustion engine(s); dehydrator(s) and associated sources or equipment that meet the best available technology (BAT) requirements of 25 Pa. Code §§ 127.1 and 127.12(a)(5), provided the construction or modification of the source is not subject to the 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) and E (relating to new source review).

For purposes of this General Permit, BAT for an internal combustion engine with a rated capacity equal to or greater than 100 brake horsepower (bhp) shall include the installation and operation of available control measures that reduce emissions to the limitations described in Condition 13.b. of this General Permit. Any internal combustion engine with a rated capacity equal to or greater than 1500 bhp may not be installed under this General Permit.

BAT for a dehydrator which has a total uncontrolled potential emission rate of volatile organic compound (VOC) emissions equal to or greater than ten (10) tons per year includes the installation of an air cleaning device in accordance with Condition 13.c. The construction or modification of sources authorized by this General Permit includes the temporary replacement in-kind of engines for a period up to six months if an engine experiences an emergency breakdown. Under all other circumstances, replacement engines must meet the BAT requirements specified in Condition 13.b.

### General Operating Permit

This General Permit authorizes the operation of the natural gas, coal bed methane or gob gas production or recovery facility unless the respective operation is located in a facility subject to the requirements of 25 Pa. Code Chapter 127, Subchapter F, or Subchapters F and G. A natural gas, coal bed methane or gob gas production or recovery facility that is constructed under this General Permit and located in a facility subject to the requirements of 25 Pa. Code Chapter 127, Subchapter F, or Subchapters F and G may, however, be operated under this General Permit on a temporary basis until such time as the operating permit required pursuant to 25 Pa. Code Chapter 127, Subchapter F, or Subchapters F and G, has been issued or amended by the DEP to include the terms and conditions of this General Permit.

Once authorization to use this General Permit is granted, operation may proceed provided that the permittee notifies the Department in accordance with Condition 6 of this General Permit.

### Potential to Emit Limitations

Upon the request of an applicant, this General Permit may be used to limit a facility's potential to emit (PTE), as defined in 25 *Pa. Code* §121.1, of any Natural Gas, Coal Bed Methane or Gob Gas Production or Recovery Facility in accordance with the specifications in the Application for Authorization to Use GP-5. The specifications in the application shall include, but are not limited to, operational, production and emission restrictions. Federal emission limitations established in New Source Performance Standards codified at 40 CFR Part 60 (incorporated by reference in their entirety in 25 *Pa. Code* § 122.3) and National Emission Standards for Hazardous Air Pollutants codified at 40 CFR Parts 61 and 63 (incorporated by reference in 25 *Pa. Code* §§ 124.3 and 127.35, respectively) will also be used to limit the facility's PTE.

### **3. Application for Use**

Pursuant to 25 *Pa. Code* § 127.621, any person proposing to construct and/or operate a natural gas, coal bed methane or gob gas production or recovery facility under the General Permit shall make application to the Department using the "Natural Gas, Coal Bed Methane or Gob Gas Production or Recovery Facility General Permit Application" provided by the Department and shall receive written authorization from the Department prior to using this General Permit. This application must be accompanied by the appropriate application fee and any additional forms and information requested by the Department. An applicant seeking authorization to use this General Permit shall submit the application to the Department's Regional Office responsible for authorizing the use of this General Permit in the county in which the respective natural gas, coal bed methane or gob gas production or recovery facility will be constructed, modified and/or operated. The Department will take action on the application within 30 days of receipt.

### **4. Compliance**

Any facility operating under this General Permit must comply with the terms and conditions of the General Permit. The facility shall be:

- a. operated in such a manner as not to cause air pollution, as defined in 25 *Pa. Code* § 121.1.
- b. operated and maintained in a manner consistent with good operating and maintenance practices; and
- c. operated and maintained in accordance with the manufacturer's specifications, the specifications in the Application for Authorization to Use GP-5 and the applicable terms and conditions of this General Permit.

### **5. Permit Modification, Suspension and Revocation**

This General Permit may be modified, suspended, or revoked if the Department determines that the affected facility cannot be adequately regulated under this General Permit.

Any authorization to construct and/or operate a natural gas, coal bed methane or gob gas production or recovery facility under this General Permit that is granted to a person by the Department may be suspended or revoked if the Department determines that, at any time, that person has failed to construct and/or operate the natural gas, coal bed

methane or gob gas production or recovery facility in compliance with the terms and conditions of this General Permit. Upon suspension or revocation of the authorization to construct and/or operate a natural gas, coal bed methane or gob gas production or recovery facility under this General Permit, construction and/or operation shall cease immediately.

## **6. Notice Requirements**

The applications and notifications required by *25 Pa. Code* § 127.621 shall be submitted to the appropriate Regional Office responsible for issuing authorizations to use general permits in the county in which the natural gas, coal bed methane or gob gas production or recovery facility is or will be located. As required under § 127.621(b), the application shall be either hand delivered or transmitted by certified mail, return receipt requested.

The facility owner or operator shall not construct or modify a source under this General Permit until prior written approval is received from the appropriate DEP Regional Office. Notice of the commencement of construction shall be provided to the Department within five (5) working days of beginning construction. This General Permit may be used by the owner or operator of a “new source” as defined in *25 Pa. Code* § 121.1 to authorize operation provided that the Department receives written notice of the completion of construction and the intent to commence operation at least five (5) working days prior to completion of construction.

The facility owner or operator shall notify the Department by telephone within twenty-four (24) hours of the discovery of any malfunction of a natural gas, coal bed methane or gob gas production or recovery facility operating pursuant to this General Permit, or any malfunction of an associated air cleaning device that results in, or may possibly be resulting in, the emission of air contaminants in excess of any applicable limitation specified herein or in excess of the limitations specified in any applicable rule or regulation contained in *25 Pa. Code* Chapters 121 through 145, or that otherwise results in, or may possibly be resulting in, noncompliance with the requirements specified in any applicable condition of this General Permit. If the facility owner or operator is unable to provide notification within twenty-four (24) hours of discovery due to a weekend or holiday, the notification shall be made to the Department by no later than 4 p.m. on the first Department business day following the respective weekend or holiday. Additional information regarding any reported malfunction shall be provided in writing to the Department, upon request.

## **7. Term of Authorization to Use of the General Permit**

Authority to operate under this General Permit is granted for a fixed term of five (5) years. The Department will notify each applicant, in writing, when authority to operate under this General Permit is granted.

## **8. Fees**

This General Permit establishes the following plan approval application, operating permit application and operating permit renewal fee:

Three hundred seventy-five dollars (\$375.00).

A plan approval application and fee is required each time the facility owner or operator installs or modifies a natural gas, coal bed methane or gob gas production or recovery facility in accordance with this General Permit.

## **9. Expiration and Renewal of Authorization**

The facility owner or operator's right to construct and/or operate under this General Permit terminates on the date of expiration of the authorization unless a timely and complete renewal application is submitted to the Department thirty (30) days prior to the expiration date.

Upon receipt of a complete and timely application for renewal to construct and/or operate under this General Permit, the permittee may continue to construct and/or operate the natural gas, coal bed methane or gob gas production or recovery facility subject to final action by the Department on the renewal application, provided, in case of operation, that the natural gas, coal bed methane or gob gas production or recovery facility is operated in compliance with all terms and conditions of this General Permit. This right shall, however, cease to exist if the applicant fails to submit, by the deadline specified by the Department, any information required by the Department to process the renewal application.

The application for renewal shall include the identity of the owner or operator, location of the facility, current permit number, description of the engines and equipment located at the facility, information regarding previously imposed limitations, the appropriate renewal fee listed in Condition 8 and any other information requested by the Department.

## **10. 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, but not limited to 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 Parts 61 and 63 (incorporated by reference in 25 *Pa. Code* §§ 124.3 and 127.35, respectively).

## **11. Prohibited Use**

Any stationary air contamination source that is subject to the requirements of 25 *Pa. Code* Chapter 127, Subchapter D, E, G, or 25 *Pa. Code* § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs) may not construct or operate a natural gas, coal bed methane or gob gas production or recovery facility under this General Permit. This General Permit shall not be used for the installation of internal combustion engine(s) with a rated capacity of more than 1500 bhp. An owner or operator of a Title V facility may also seek authorization to use this General Permit solely as a General Plan Approval when major sources are not subject to the prevention of significant deterioration and nonattainment new source review requirements specified in 25 *Pa. Code* Chapter 127, Subchapters D and E, respectively.

## 12. Transfer of Ownership or Operation

The facility owner or operator may not transfer the authorization to operate the natural gas, coal bed methane or gob gas production or recovery facility. New owners or operators shall submit a new application and fees as described in Condition 8.

## 13. Emissions Limits for Natural Gas, Coal Bed Methane or Gob Gas Production or Recovery Facilities

- a. Natural gas, coal bed methane or gob gas production or recovery facilities operated under this General Permit may not, at any time, result in the emission of:
  - i. Visible emissions in excess of the limitations specified in 25 *Pa. Code* §123.41 (relating to limitations) as follows:
    - A. Equal to or greater than 20% for a period or periods aggregating more than 3 minutes in any one hour.
    - B. Equal to or greater than 60% at any time.
  - ii. Malodorous air contaminants in such a manner that the malodors are detectable outside the property of the person on whose land the source is being operated. The facility owner or operator must also comply with other applicable requirements specified in 25 *Pa. Code* §123.31 (relating to limitations).
- b. Internal combustion engines for which construction commenced after March 10, 1997, and which have rated capacity equal to or greater than 100 bhp but no greater than 1500 bhp.

These internal combustion engines shall be equipped and operated with air cleaning devices that reduce emissions to levels equal to or less than:

- i. NO<sub>x</sub> at rated bhp and operating at rated speed - two grams per bhp-hour (gms/bhp-hr);
- ii. VOC at rated bhp and operating at rated speed - two gms/bhp-hr;
- iii. CO at rated bhp and operating at rated speed - two gms/bhp-hr; and,
- iv. 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.
- v. Visible emissions in excess of the following limitations:
  - A. Equal to or greater than 10% for a period or periods aggregating more than 3 minutes in any one hour.
  - B. Equal to or greater than 30% at any time.

- c. Glycol dehydrators for which construction commenced after March 10, 1997, and which have a total uncontrolled potential emission rate of VOC in excess of ten tons per year.

A Glycol Dehydrator is exempt from the requirements of this condition if it can be shown using GRI-GLYCalc™ computer software, or an alternative method as approved by the Department that total uncontrolled potential emission rate of VOC emissions from the unit is equal to or less than 10 (ten) tons per year and the unit can be operated without creating malodors as prescribed in Condition 13.c.v.

- i. The VOC emissions from the dehydrator still vent stream shall be controlled by at least 85% either 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.
- ii. 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).
- iii. 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, and by documenting daily visual observations of the continuous presence of a flame.
- iv. Visible emissions from a Glycol Dehydrator using a flare shall not exceed the following limitations:
  - A. Equal to or greater than 10% for a period or periods aggregating more than 3 minutes in any one hour.
  - B. Equal to or greater than 30% at any time.
- v. A Glycol Dehydrator shall not emit malodorous air contaminants in such a manner that the malodors are detectable outside the facility property.

**14. Emission Limitations and/or Operating Requirements Previously Established Pursuant to a Case-by-Case Best Available Technology Determination and/or Imposed to Give Synthetic Minor Status**

This General Permit cannot be used to vacate or supercede best available technology or other emission limitations or requirements established through the air quality permitting process.

**15. Requirements for Engines Installed After July 1, 1972, Without Obtaining Plan Approval**

- a. Engines that commenced construction prior to January 1, 1990, shall comply with all requirements of this General Permit except Condition 13.b.
- b. Engines that commenced construction after January 1, 1990, but before March 10, 1997, and that have NO<sub>x</sub> emissions that do not exceed twenty (20) tons per year per engine, shall comply with all requirements of this General Permit except Condition 13.b.
- c. Engines that commenced construction after January 1, 1990, but before March 10, 1997, and that have NO<sub>x</sub> emissions over twenty (20) tons per year per engine, shall comply with all requirements of this General Permit, including Condition 13.b.

## 16. Performance Testing

- a. The Department shall require verification of NO<sub>x</sub> emissions from the facility if the NO<sub>x</sub> emissions are estimated to be equal to or greater than ninety (90) tons per year. The verification may include: vendor guarantees, performance testing in accordance with applicable provisions of 25 *Pa. Code* Chapter 139 (relating to sampling and testing), portable analyzers, recent on-site test data on similar engines, or any other means approved by the Department.
- b. When a new internal combustion engine is installed in accordance with Conditions 2 and 13.b., compliance with the emission limitation shall be demonstrated to the satisfaction of the Department. The demonstration may include: vendor guarantees, performance testing in accordance with applicable provisions of 25 *Pa. Code* Chapter 139, results from portable analyzers, recent on-site test data on similar engines, or any other means approved by the Department.
  - i. For a new internal combustion engine installed in accordance with Conditions 2 and 13.b. and that has a rated capacity equal to or less than 500 bhp, vendor guarantees shall be sufficient to fulfill this requirement. However, when the NO<sub>x</sub> emissions from the facility are estimated to be equal to or greater than ninety (90) tons per year, the Department reserves the right to require an additional verification of emission rates, which may include source testing.
  - ii. For a new internal combustion engine installed in accordance with Conditions 2 and 13.b. and that has a rated capacity greater than 500 bhp, but no greater than 1500 bhp, the permittee shall perform stack testing in accordance with 25 *Pa. Code* Chapter 139, within one hundred eighty (180) days after the issuance of this General Permit. A Department-approved portable analyzer may be used in lieu of initial stack testing. The submittal of the initial testing will be extended to one year, should the permittee elect to demonstrate compliance, in lieu of testing, through an alternate means. Alternate means may include parametric monitoring of engine parameters to confirm that engine emissions are within the emission limitations.

In addition to the stack testing required by this condition, within twelve (12) months after the initial stack testing, and annually thereafter, the permittee shall perform NO<sub>x</sub> emissions tests upon each of the respective engines as stated in Condition 13.b. herein using a portable analyzer approved by the Department. The Department may alter the frequency of annual portable analyzer tests based on the results. The Department may also waive all or parts of this requirement if the permittee demonstrates compliance, in lieu of testing, through alternate means satisfactory to the Department.

The Department reserves the right to require stack tests in accordance with EPA reference methods should the data from the portable analyzer warrant. The purpose of this testing is to demonstrate compliance with the emission limitations required for new engines.

- iii. If, at any time, the Department has cause to believe that air contaminant emissions from the facility covered by this General Permit are in excess of the limitations specified in, or established pursuant to, any applicable regulation contained in 25 *Pa. Code*, Subpart C, Article III, the Department shall require the permittee to conduct tests deemed necessary to demonstrate compliance. The permittee shall perform such testing in accordance with the applicable provisions of 25 *Pa. Code* Chapter 139 (relating to sampling and testing) and in accordance with any restrictions or limitations established by the Department at the time the permittee is notified, in writing, of the testing requirement.

## 17. Monitoring, Recordkeeping and Reporting

- a. The permittee shall maintain comprehensive, accurate records which, at a minimum, shall include:
  - i. The number of hours per calendar year that each engine or piece of equipment operated.
  - ii. The amount of fuel used per calendar year in each engine or piece of equipment.
- b. When a new internal combustion engine is installed in accordance with Conditions 2 and 13.b. and is required to conduct a performance test, the permittee shall maintain records or report the following:
  - i. Records including a description of testing methods, results, all engine operating data collected during the tests, and a copy of the calculations performed to determine compliance with emission standards.
  - ii. Copies of the report that demonstrates that the engines were operating at rated bhp and rated speed conditions during performance testing.
  - iii. Submittal of reports in accordance with the requirements and schedules outlined in Condition 16.a. of this General Permit.

- c. When a new dehydrator is installed in accordance with Conditions 2 and 13.c., the permittee shall maintain the following:
  - i. A record of the results of any testing conducted to determine compliance with Condition 13.c.
  - ii. If a Glycol Dehydrator using a condenser as an air cleaning device is installed, a record of final exhaust temperature and time observed shall be recorded twice per week on different days during daylight hours.
  - iii. If a Glycol Dehydrator using a flare as an air cleaning device is installed, a record of daily visual observations of the continuous presence of a flame shall be recorded.
  - iv. The date of any maintenance and repair of the required air cleaning device and duration of uncontrolled emissions during such activities.
- d. For a Glycol unit for which exemptions from Conditions 2 and 13.c. are being claimed, the permittee 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.

These records shall be retained for a minimum of two years and shall be made available to the Department upon request. The Department reserves the right to expand the list contained in this condition as it may reasonably prescribe pursuant to the provisions of Section 4 of the Pennsylvania Air Pollution Control Act (35 P. S. §§ 4004), and as it may deem necessary to determine compliance with any condition contained herein.

#### **18. Start-up and Shut-down Exclusion**

The emission limitations stated in Conditions 13.a.i, 13.b., and 13.c. 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 one hour per occurrence.

Approved by:

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Joyce E. Epps  
Director  
Bureau of Air Quality

Date approved: March 23, 2011