



west virginia department of environmental protection

Division of Air Quality
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Joe Manchin, III, Governor
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Secretary

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

General Permit No.: G30-D (Prevention and Control of Air Pollution in regard to the Construction, Modification, Relocation, Administrative Update and Operation of Natural Gas Compressor Stations)

Eligible SIC Codes: 1311, 1321, 4922

Engineer Assigned: Jerry Williams II, P.E.

G30-D Registration Fee Amount: \$500.00

Description: General Permit G30-D is for facilities designed and operated for the purpose of gathering, transmitting, processing or compressing natural gas. General Permit G30-D language will be the same for all facilities that want to use General Permit G30-D. The Registration forms will be different for each facility. The Registration form shall list all emission sources and sections of the general permit, which are applicable to the particular facility.

EMISSION SOURCES AND ELIGIBILITY

For the purposes of General Permit G30-D, *natural gas compressor station* means any reciprocating internal combustion engine driven compressor(s) or combination of equipment (including but not limited to compressor engines, emergency standby generators, engine driven air compressors, boilers, line heaters, tanks, etc.) that supplies energy to move natural gas at increased pressure from gathering systems, in transmission pipelines or into storage. *Engine* means any natural gas compressor engine, emergency standby engine or air compressor engine located at a natural gas compressor station.

Sources of emissions at eligible natural gas compressor stations include but are not limited to reciprocating internal combustion engine driven compressors, emergency standby generators, engine driven air compressors, boilers, line heaters and tanks.

All natural gas compressor stations having a Standard Industrial Classification (SIC) code of 1311, 1321, 4922 are eligible for General Permit registration except for:

- a. Any natural gas compressor station which is a major source as defined in 45CSR14 or 45CSR30.
- b. Natural gas exploration, drilling activity, construction and/or fracturing of wells, etc.
- c. Natural gas wellheads or gathering systems.
- d. Natural gas processing plants (e.g. production of ethane, propane, butane, and pentane).
- e. Any natural gas compressor station located in or which may significantly impact an area which has been determined to be an ozone or VOC, or NO_x non attainment area, unless otherwise approved by the Secretary.
- f. Any natural gas compressor station which will require an individual air quality permit review process and/or individual permit provisions to address the emission of a regulated pollutant or to incorporate regulatory requirements other than those established by General Permit G30-D.

SITE INSPECTION

All persons submitting a Class II General Permit Registration Application to construct, modify or relocate a natural gas compressor station shall be subject to the following siting criteria:

- a. No person shall construct, locate or relocate any facility, affected facility or emission unit within three hundred (300) feet of any occupied dwelling, business, public building, school, church, community, institutional building or public park. An owner of an occupied dwelling or business may elect to waive the three hundred (300) foot siting criteria.
- b. Any person proposing to construct, modify or relocate a natural gas compressor station within three (300) feet of any occupied dwelling, business, public building, school, church, community, institutional building or public park may elect to obtain an individual permit pursuant to 45CSR13.

The registrant shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times enter upon the registrant's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Class II General Permit.
- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution Control equipment), practices, or operations regulated or required under this Class II General Permit.
- d. Sample or monitor at reasonable times, substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Sources of emissions at eligible natural gas compressor stations include but are not limited to reciprocating internal combustion engine driven compressors, emergency standby generators, engine driven air compressors, boilers, line heaters and tanks. An estimate of criteria and hazardous/toxic pollutant emissions shall be submitted with each Class II General Permit Registration Application on an Emission Summary Sheet.

G30-D applicants are required to submit emission estimates and supporting calculations for each affected source located at the facility. These emissions will be reviewed by the DAQ to determine that the registrant meets the requirements of General Permit G30-D.

REGULATORY APPLICABILITY

The following rules apply to General Permit G30-D:

45CSR2 To Prevent and Control Particulate Air Pollution From Combustion of Fuel in Indirect Heat Exchangers

45CSR2 establishes emission limitations for smoke and particulate matter which are discharged from fuel burning units. All fuel burning units will be subject to the weight emission standard for particulate matter set forth in 45CSR2. Each registrant is also subject to all applicable opacity requirements set forth in 45CSR2 Section 3.2.

45CSR4 To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors

45CSR4 states that an objectionable odor is an odor that is deemed objectionable when in the opinion of a duly authorized representative of the Air Pollution Control Commission (Division of Air Quality), based upon their investigations and complaints, such odor is objectionable. All facilities are inspected by the DAQ Enforcement Section.

45CSR10 To Prevent and Control Air Pollution from the Emission of Sulfur Oxides

The purpose of this rule is to prevent and control air pollution from the emission of sulfur oxides. All fuel burning units will be subject to the weight emission standard for sulfur dioxide set forth in 45CSR10.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation

As provided in 45CSR13, the Secretary may issue Class II General Permits involving the same or similar processes or pollutants. For eligible applicants and/or registrants, Class II General Permit registration satisfies the construction, modification, relocation and operating permit requirements of 45CSR13.

45CSR22 Air Quality Management Fee Program

45CSR22 applies to all registrants which are minor sources and no NSPS applies. The affected registrants will be subject to the fee schedule set forth in 45CSR22. They are also required to keep their Certificate to Operate status current.

45CSR30 (Requirements for Operating Permits)

Certain emergency generators are subject to 40CFR60, Subpart IIII, and therefore subject to 45CSR30.

40CFR60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)

Subpart IIII sets forth emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject emergency generator.

40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines)

Subpart JJJJ sets forth emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Small amounts of non-criteria regulated hazardous or toxic air pollutants such as benzene, ethylbenzene, toluene, xylenes and formaldehyde may be emitted when natural gas is combusted in reciprocating engines. Total non-criteria regulated hazardous/toxic air pollutant emissions are tabulated for each registered natural gas compressor station in the Class II General Permit Registration Application. The Director has previously determined that due to the rural location and the typically small amounts emitted, these non-criteria regulated hazardous/toxic pollutants should not adversely impact an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare. The changes to this permit do not change that determination. A toxicity analysis will be performed when the Director finds existing circumstances and/or submitted data provide cause for an assessment to be made concerning whether a specific natural gas compressor station may interfere with attainment or maintenance of an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare. Any natural gas compressor station granted Class II General Permit registration by the Director shall not have a potential to emit of 10 tons per year of any hazardous/toxic pollutant or 25 tons per year of any combination of hazardous/toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling will be performed when the Director finds existing circumstances and/or submitted data provide cause for an assessment to be made concerning whether a specific natural gas compressor station may interfere with attainment or maintenance of an applicable ambient air quality standard or cause or contribute to a violation of an applicable air quality increment from any proposed Class II General Permit registration action. Factors to be considered when determining whether an ambient air assessment would be made include:

- a. Existing air quality of the area
- b. Topographic or meteorological factors
- c. Maximum emissions
- d. Siting criteria

MONITORING OF OPERATIONS

G30-D registrants will be required to perform the following monitoring:

1. Monitor and record calendar monthly and calendar annual quantity of natural gas consumed and hours of operation for all engines and combustion sources.
2. Monitor and record calendar annual quantity of organic liquid throughput in all registered storage tanks.
3. Conduct visual observations of all vent points listed in the permit that are subject to 45CSR2 opacity limits.
4. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.

G30-D registrants will be required to perform the following recordkeeping:

1. Maintain on-site a tabulation of actual emissions for each calendar year annual period, showing emission totals for the air pollutants regulated in the registration.
2. Maintain records on-site of all required monitoring parameters for the emission units and control devices listed in the registration.
3. Maintain records relating to inspection, maintenance, failure, replacement, and/or repair of catalytic reduction devices, and associated auxiliary air pollution control devices for each calendar year. Such records shall include a summary of any engine or air pollution control device and/or auxiliary air pollution control device failure, preventative maintenance or corrective action performed.
4. These records shall be maintained on-site for a minimum of five (5) years from the date of record creation.

CHANGES TO GENERAL PERMIT G30-C

General Permit G30-D addresses the addition of New Source Performance Standards (NSPS) for 40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines). This language was incorporated into Section 9.0 of General Permit G30-D.

RECOMMENDATION TO DIRECTOR

General Permit G30-D meets all the requirements of applicable regulations when all of the applicable control devices are functioning properly. Therefore, it is recommended that General Permit G30-D should be issued to supersede and replace General Permit G30-C.

Jerry Williams II, P.E.
Engineer

Date