



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.: Class II General Permit G35-A (Prevention and Control of Air Pollution in regard to the Construction, Modification, Relocation, Administrative Update and Operation of Natural Gas Compressor Stations With Glycol Dehydration Units, Flares, or Other Specified Control Devices Herein)

The Secretary may develop and issue Class I and Class II general permits under 45CSR13 authorizing the construction, modification or relocation of a category of sources by the same owner or operator or involving the same or similar processes or pollutants upon the terms and conditions specified in the general permit.

Eligible SIC Codes: 1311, 1321, 4922

Engineer Assigned: Jerry Williams II, P.E.

G35-A Registration Fee Amount: \$500.00 (Construction, Modification, and Relocation)
\$300.00 (Class II Administrative Update)
\$1,000.00 (NSPS fee for 40CFR60 Subpart JJJJ)
NSPS fee for emergency generators has been waived.

Description: General Permit G35-A is for facilities designed and operated for the purpose of gathering, transmitting, processing or compressing natural gas. General Permit G35-A language will be the same for all facilities that want to use General Permit G35-A. 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. General Permit G35-A allows registrants to install and operate glycol dehydration units, flares, or other specified control devices registered herein.

General Permit G35-A will undergo public notice prior to being issued. The public notice will appear in the Charleston Newspapers, Dominion Post, The Herald Dispatch, The Journal, and the State Register.

EMISSION SOURCES AND ELIGIBILITY

For the purposes of General Permit G35-A, a *natural gas compressor station* means any permanent combination of equipment (including but not limited to reciprocating internal combustion engine-driven compressors, emergency standby generators, engine driven air compressors, boilers, line heaters, tanks, glycol dehydration units, etc.) that supplies energy to move natural gas at increased pressure from gathering systems, in transmission pipelines or into storage.

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, tanks, glycol dehydration units, flares, or other specified control devices.

All natural gas compressor stations with glycol dehydration units, flares, or other specified control devices herein designed and operated for the purpose of gathering, transmitting, processing or compressing natural gas and is included in SIC codes 4922, 1321 & 1311 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 G35-A.

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 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) feet 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, tanks, glycol dehydration units, flares, and other specified control devices. 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.

G35-A 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 G35-A.

REGULATORY APPLICABILITY

The following rules apply to General Permit G35-A:

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.

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 develop and issue Class II general permits under this rule authorizing the construction, modification or relocation of a category of sources by the same owner or operator or involving the same or similar processes or pollutants upon the terms and conditions specified in the general permit. For eligible applicants and/or registrants, Class II General Permit registration satisfies the construction, modification, relocation and operating permit requirements of 45CSR13. General Permit G35-A sets forth reasonable conditions that enable eligible applicants and/or registrants to establish enforceable permit limits.

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 as a deferred source. In addition, certain spark ignition internal combustion engines are subject to 40CFR60, Subpart JJJJ, and therefore subject to 45CSR30 as a deferred source.

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.

The following rules do not apply to the facility:

40CFR63 Subpart HH (National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production and National Emission Standards for Hazardous Air Pollutants: Natural Gas Transmission and Storage)

40CFR63 Subpart HHH (National Emission Standards for Hazardous Air Pollutants: Natural Gas Transmission and Storage)

These promulgated national emission standards for hazardous air pollutants (NESHAP) limit emissions of hazardous air pollutants (HAP) from oil and natural gas production and natural gas transmission and storage facilities. These final rules implement section 112 of the Clean Air Act (Act) and are based on the Administrator's determination that oil and natural gas production and natural gas transmission and storage facilities emit HAP identified on the EPA's list of 188 HAP.

For those registrants that have a flare they will be required to operate in accordance 40CFR60.18 - General control device requirements. If a flare is meeting the 40CFR60.18 requirements, then it is presumed to be meeting 95% control efficiency. Incorporating these conditions into a federally enforceable (both practically enforceable, as well as publically noticed) permit affords the registrant a method to become a synthetic minor for HAPs. Therefore, this rule will not apply to the proposed General Permit G35-A. In addition, other specified control devices registered under Class II General Permit G35-A will be considered federally enforceable. Therefore, affording the registrant a method to become a synthetic minor for HAPs.

Unless otherwise stated WVDEP DAQ did not determine whether the registrant is subject to an area source air toxics standard requiring Generally Achievable Control Technology (GACT) promulgated after January 1, 2007 pursuant to 40 CFR 63, including the area source air toxics provisions of 40 CFR 63, Subpart HH and 40 CFR 63, Subpart ZZZZ.

40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

This action promulgates national emission standards for hazardous air pollutants (NESHAP) for stationary reciprocating internal combustion engines (RICE) with a site rating of more than 500 brake horsepower (HP) that are major sources of HAPs.

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. 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

DEVELOPMENT OF GENERAL PERMIT G35-A

The language present in General Permit G30-C will be carried over into General Permit G35-A for RICE's, boilers, reboilers, line heaters, tanks, and emergency generators. However, it will differ in the fact that it will allow for the installation and operation of glycol dehydration units, flares, and other specified control devices at non-major HAP facilities (not subject to 40CFR63 Subpart HH or HHH).

Possible registrants for General Permit G35-A include those natural gas compressor stations that choose to install and operate glycol dehydration units not subject to a MACT standard (Section 9.0), glycol dehydration units not subject to a MACT standard and being controlled by a flare control device (Section 10.0), glycol dehydration units not subject to MACT Standards being controlled by recycling the dehydration unit back to the flame zone of the reboiler (Section 11.0), and glycol dehydration units not subject to MACT standards being controlled by a thermal oxidizer (Section 12.0). In addition, General Permit G35-A provides permit exemptions including the less than 1 ton/year benzene exemption (Section 13.0), 40CFR63 Subpart HH - Annual Average Flow of Gas Exemption (3 mmscf/day), 40CFR63 Subpart HHH - Annual Average Flow of Gas Exemption (10 mmscf/day). Finally, General Permit G35-A includes the ability to register engines subject to 40CFR60 Subpart JJJJ) (Section 16.0).

All registered facilities under Class II General Permit G35-A are subject to Sections 1.0, 1.1, 2.0, 3.0, and 4.0.

Each applicant will then choose which of the following sections that they are seeking registration for under General Permit G35-A:

Section 5	Reciprocating Internal Combustion Engines (R.I.C.E.)*
Section 6	Boilers, Reboilers, and Line Heaters
Section 7	Tanks
Section 8	Emergency Generators
Section 9	Dehydration Units Not Subject to MACT Standards
Section 10	Dehydration Units Not Subject to MACT Standards and being controlled by a flare control device
Section 11	Dehydration Units Not Subject to MACT Standards being controlled by recycling the dehydration unit back to the flame zone of the reboiler
Section 12	Dehydration Units Not Subject to MACT Standards and being controlled by a thermal oxidizer
Section 13	Permit Exemption (Less than 1 ton/year of benzene exemption)
Section 14	Permit Exemption (40CFR63 Subpart HH – Annual average flow of gas exemption (3 mmscf/day))
Section 15	Permit Exemption (40CFR63 Subpart HHH – Annual average flow of gas exemption (10 mmscf/day))
Section 16	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40CFR60 Subpart JJJJ)

*** Affected facilities that are subject to Section 5 may also be subject to Section 16. Therefore, if the applicant is seeking registration under both sections, they will need to select both sections.**

RECOMMENDATION TO DIRECTOR

General Permit G35-A meets all the requirements of applicable regulations when all of the applicable control devices are functioning properly. Therefore, it is recommended that General Permit G35-A should be issued.

Jerry Williams II, P.E.
Engineer

Date