



**west virginia** department of environmental protection

Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone (304) 926-0475 • FAX: (304) 926-0479

Joe Manchin, III, Governor  
Randy C. Huffman, Cabinet Secretary  
www.wvdep.org

## **ENGINEERING EVALUATION / FACT SHEET**

### **BACKGROUND INFORMATION**

General Permit No.: Class I General Permit G33-A (Prevention and Control of Air Pollution in regard to the Construction, Modification, Relocation, Administrative Update and Operation of Spark Ignition Internal Combustion Engines Greater Than or Equal to 25 HP and Less Than or Equal to 500 HP)

The Secretary may develop and issue Class I 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.

G33-A Registration Fee Amount: \$250.00 (Construction, Modification, and Relocation)  
\$300.00 (Class II Administrative Update)

Description: General Permit G33-A is for facilities designed and operated for the purpose of gathering, transmitting, processing or compressing natural gas. General Permit G33-A language will be the same for all facilities that want to use General Permit G33-A. The issued Registrations will be different for each facility. The Registration form shall list all emission sources located at that facility. General Permit G33-A allows registrants to install and operate spark ignition internal combustion engines (SI ICE) greater than or equal to 25 HP and less than or equal to 500 HP meeting the eligibility requirements listed below. Registering an eligible engine under General Permit G33-A will satisfy the permitting requirements associated with New Source Performance Standards of 40CFR60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

General Permit G33-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

The purpose of this Class I General Permit is to authorize the construction, modification and relocation, administrative update and operation of eligible SI ICEs through a Class I General Permit registration process. The requirements, provisions, standards and conditions of this Class I General Permit address the prevention and control of regulated air pollutant emissions from the operation of registered SI ICEs. General Permit G33-A is being developed to address the New Source Performance Standards of 40CFR60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

For the purposes of General Permit G33-A, a *natural gas compressor engine* means a natural gas-fueled reciprocating stationary internal combustion engine used to supply energy to move natural gas at increased pressure from gathering lines, in transmission pipelines or into storage.

For the purposes of General Permit G33-A, *spark ignition* means relating to either: a gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation.

For the purposes of General Permit G33-A, *stationary internal combustion engine* means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary ICE is not a nonroad engine as defined at 40 CFR 1068.30 (except paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

All SI ICEs greater than or equal to 25 HP and less than or equal to 500 HP herein designed and operated for the purpose of gathering, transmitting, processing or compressing natural gas and is included in a Standard Industrial Classification (SIC) code of 1311, 1321, and 4922 are eligible for General Permit registration except for:

- a. Any SI ICE which is a major source as defined in 45CSR14 or 45CSR30;
- b. Any SI ICE subject to the requirements of 45CSR14, 45CSR15, 45CSR19, 45CSR25, 45CSR27, 45CSR30, 45CSR34;
- c. Any SI ICE or combination of SI ICEs which is/are located at a facility where facility-wide estimated aggregate emissions exceed six (6) pounds per hour AND ten (10) tons per year for one of the following pollutants: Nitrogen Oxides, Carbon Monoxide, Sulfur Dioxide, Volatile Organic Compounds (VOC), and Particulate Matter;
- d. Any SI ICE or combination of SI ICEs which is/are located at a facility where facility-wide estimated aggregate emissions exceed more than two (2) pounds per hour or five (5) tons per year of hazardous air pollutants considered on an aggregated basis;

- e. Any SI ICE or combination of SI ICEs which is/are located at a facility where facility-wide estimated aggregate emissions exceed the associated amount of any pollutant listed in Table 45-13A;
- f. Any SI ICE located in or which may significantly impact an area which has been determined to be an ozone or VOC, or NO<sub>x</sub> non attainment area, unless otherwise approved by the Secretary;
- g. Any SI ICE 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 G33-A.

### SITE INSPECTION

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 I 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 I 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

An estimate of criteria and hazardous/toxic pollutant emissions shall be submitted with each Class I General Permit Registration Application on an Emission Summary Sheet.

G33-A applicants are required to submit emission estimates and supporting calculations for each facility. These emissions will be reviewed by the DAQ to determine that the registrant meets the requirements of General Permit G33-A.

## REGULATORY APPLICABILITY

The following rules apply to General Permit G33-A:

**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 I 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, Class I General Permit registration satisfies the construction, modification, relocation and operating permit requirements of 45CSR13. General Permit G33-A sets forth reasonable conditions that enable eligible applicants and/or registrants to establish enforceable permit limits.

**45CSR16** (Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60)

45CSR16 applies to this source by reference of 40CFR60, Subpart JJJJ. Registrants are subject to the recordkeeping, monitoring, and testing required by 40CFR60 Subpart JJJJ.

**45CSR30** (Requirements for Operating Permits)

Applicants seeking registration under General Permit G33-A are subject to 40CFR60, Subpart JJJJ, and therefore subject to 45CSR30 as a deferred source.

**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 General Permit G33-A:

**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.

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 SI ICE in the Class I General Permit Registration Application. The Director has previously determined that due to 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. 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 SI ICE may interfere with attainment or maintenance of an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare.

## 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 SI ICE 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 I 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 location

## RECOMMENDATION TO DIRECTOR

General Permit G33-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 G33-A should be issued.

---

Jerry Williams II, P.E.  
Engineer

---

Date