

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR DIVISION**

**INTRA AGENCY MEMORANDUM**

**TO:** File

**FROM:** Mary E. Major  
Environmental Program Manager

**SUBJECT:** Meeting Minutes - Technical Advisory Committee Concerning Emergency  
Generators General Permit (Rev. Eg)

**DATE:** May 4, 2010

**INTRODUCTION**

A meeting of the technical advisory committee concerning emergency generators general permit was held in the 2<sup>nd</sup> Floor Conference Room B, Department of Environmental Quality, 629 E. Main Street, Richmond, Virginia. A record of meeting attendees is attached.

**Start:** 12:45 p.m.

**End:** 3:30 p.m.

**Subcommittee Members Present:**

Walid M. Daniel, PE, CEM  
Terry Darton  
Andy Gates  
Michael W. Kendall, R.S.  
Mary E. Major  
Rebekah Remick  
William Scarpinato  
Susan Stewart  
Joe Suchecki

**Subcommittee Members Absent:**

Jerome A. Brooks

**Public Attendees:**

Ms. Laura Rose

**SUMMARY OF DISCUSSION**

Ms. Becky Remick reviewed the contents of the document titled the Emergency Generator General Permit - Draft 1. It was explained that the document was just a starting point for discussion. The TAC had discussion on the following provisions:

Definitions:

Discussion concerning the general assembly intent with regard to the definition of emergency and whether the general permit can cover emergencies other than those that are ISO declared. Also discussed the term or phrase "failure of the electrical grid".

Need additional definitions:

Installation

Retail customer

Operating Limitations:

Appropriate value for maximum sulfur content in distillate oil and biodiesel.

Questioned need for identifying heat content of natural gas.

Emission Limits:

Significant discussion on process emission limits and the confusion of the NSPS limits including the inability to separate the VOC and NOx levels for Tier 2 engines.

Visible emission limit: Opacity limit will be determined using EPA Method 9.

Annual process emission limits need to be modified to ensure modeling is not required.

Records:

Do records need to be maintained on site (some engines operate at unmanned sites) or just available to DEQ within a specified timeframe; i.e. 2 days.

**NEXT MEETING DATE**

The next meeting is scheduled for May 19, 2010, 2<sup>nd</sup> Floor Conference Room A, Department of Environmental Quality, 629 E. Main Street, Richmond, Virginia.

### **DOCUMENT DISTRIBUTION**

The following documents were distributed to the committee prior to or at the meeting:

1. Copy of Meeting attendees
2. Copy of enabling legislation (HB 2531)
3. List of TAC members
4. Role of the Technical Advisory Committee in the Regulatory Process
5. Emergency Generator General Permit –Draft 1

TEMPLATES\GEN-PERMIT\GP08  
REG\GEN-DEVEg-GP08-1

Attachments

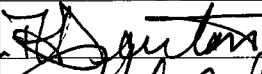

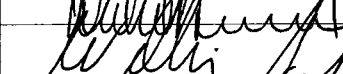
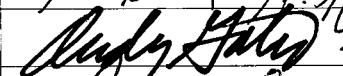
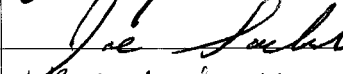
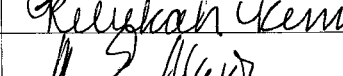
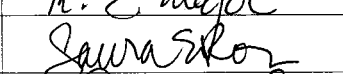
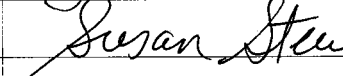
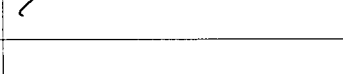
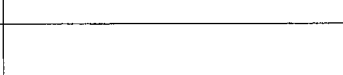
COMMONWEALTH OF VIRGINIA  
STATE AIR POLLUTION CONTROL BOARD

TECHNICAL ADVISORY COMMITTEE MEETING  
ATTENDANCE RECORD

May 4, 2010

SUBJECT: Peak Shaving/Emergency Generator GP (Revision DG/EG)

LOCATION: 11th Floor Conference Room, Department of Environmental Quality, 629  
East Main Street, Richmond, Virginia

| PRINTED NAME       | SIGNATURE  |
|--------------------|--|
| TERRY DARTON       |     |
| Michael W. Kendall |    |
| Walter Damico      |    |
| Bill Scarpinato    |   |
| Andy Gates         |  |
| Joe Suchecki       |  |
| Rebekah Remick     |  |
| Beth Major         |  |
| Laura Rose         |  |
| Susan Stewart      |  |
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VIRGINIA ACTS OF ASSEMBLY — CHAPTER

2 *An Act to amend the Code of Virginia by adding a section numbered 10.1-1307.02 and to direct the*  
 3 *State Corporation Commission to conduct a proceeding to determine appropriate energy conservation*  
 4 *and demand response targets that can realistically be accomplished through demand-side*  
 5 *management portfolios and other energy conservation, energy efficiency, and demand-side*  
 6 *management programs to be administered by generating electric utilities, and directing the Air*  
 7 *Pollution Control Board to adopt regulations providing exemptions to certain air quality*  
 8 *requirements.*

9

[H 2531]

10

Approved

11 **Be it enacted by the General Assembly of Virginia:**

12 **1. That the Code of Virginia is amended by adding a section numbered 10.1-1307.02 as follows:**

13 *§ 10.1-1307.02. Permit for generation of electricity during ISO-declared emergency.*

14 *A. As used in this section:*

15 *"Emergency generation source" means a stationary internal combustion engine that operates*  
 16 *according to the procedures in the ISO's emergency operations manual during an ISO-declared*  
 17 *emergency.*

18 *"ISO-declared emergency" means a condition that exists when the independent system operator, as*  
 19 *defined in § 56-576, notifies electric utilities that an emergency exists or may occur and that complies*  
 20 *with the definition of "emergency" adopted by the Board pursuant to subsection B.*

21 *"Retail customer" has the same meaning ascribed thereto in § 56-576.*

22 *B. The Board shall adopt a general permit or permits for the use of back-up generation to authorize*  
 23 *the construction, installation, reconstruction, modification, and operation of emergency generation*  
 24 *sources during ISO-declared emergencies. Such general permit or permits shall include a definition of*  
 25 *"emergency" that is compatible with the ISO's emergency operations manual. After adoption of such*  
 26 *general permit or permits, any amendments to the Board's regulations necessary to carry out the*  
 27 *provisions of this section shall be exempt from Article 2 (§ 2.2-4006 et seq.) of the Administrative*  
 28 *Process Act.*

29 **2. § 1. That the State Corporation Commission shall conduct a formal public proceeding that will**  
 30 **include an evidentiary hearing for the purpose of determining achievable, cost-effective energy**  
 31 **conservation and demand response targets that can realistically be accomplished in the Commonwealth**  
 32 **through demand-side management portfolios administered by each generating electric utility in the**  
 33 **Commonwealth. As used in this act, "generating electric utility" means a public service corporation that**  
 34 **serves electric load at retail, has rates regulated by the State Corporation Commission, and that, as of**  
 35 **January 1, 2009, directly owns and operates electric generation facilities in excess of six megawatts,**  
 36 **other than diesel generators used for voltage control. The determination of what consumption and peak**  
 37 **load reductions can be achieved cost-effectively shall consider standard industry-recognized tests. The**  
 38 **Commission shall determine which test should be given greatest weight when preparing a cost-benefit**  
 39 **analysis of a demand-side management program, taking into consideration the public interest and the**  
 40 **potential impact on economic development in the Commonwealth.**

41 **§ 2. That the State Corporation Commission shall report its findings to the Governor and the**  
 42 **General Assembly on or before November 15, 2009. Such report shall (i) indicate the range of**  
 43 **consumption and peak load reductions that are potentially achievable by each generating electric utility,**  
 44 **the range of costs that consumers would pay to achieve those reductions, and the range of financial**  
 45 **benefits or savings that could be realized if the targets were met over a 15-year period; and (ii)**  
 46 **determine a just and reasonable ratemaking methodology to be employed to quantify the cost**  
 47 **responsibility of each customer class to pay for generating electric utility-administered demand-side**  
 48 **management programs. This evaluation shall include an examination of the class cost responsibility**  
 49 **methods used in other jurisdictions, including, but not limited to, the allocation of costs based on**  
 50 **projected class benefits and the allocation of costs based on program participation. The analysis shall**  
 51 **also examine other jurisdictions that permit certain nonresidential customers or classes of customers to**  
 52 **either be exempt from paying for the utility demand-side management programs or to opt out of**  
 53 **participating in or paying for the utility demand-side management programs, and determine if it would**  
 54 **be in the public interest for the Commonwealth to have a similar policy.**

55 **§ 3. That the State Corporation Commission, for the service area of a generating electric utility that**  
 56 **has elected to meet its capacity obligations of a regional transmission entity through a fixed capacity**

57 resource requirement as an alternative to other capacity mechanisms, shall approve any demand  
58 response program proposed to be offered to retail customers by the generating electric utility or any  
59 other qualified nonutility provider if, following notice and the opportunity for a hearing, the State  
60 Corporation Commission finds (i) any nonutility provider to be qualified, (ii) the program to be  
61 effective, reliable, and verifiable as a capacity resource, and (iii) such program to be in the public  
62 interest. A State Corporation Commission order issued pursuant to this section shall not affect any  
63 contract between a retail customer and a curtailment service provider executed prior to July 1, 2009.

64 § 4. That the State Air Pollution Control Board, in consultation with the State Corporation  
65 Commission and the Department of Mines, Minerals and Energy, shall adopt an air general permit or  
66 permits for the construction, installation, and operation of distillate oil, natural gas, liquid propane gas,  
67 and bio-diesel fired electric generating facilities that participate in a voluntary demand response  
68 program (i.e. load curtailment, demand response, peak shaving or like program) and that qualify as non  
69 major facilities under the Clean Air Act Amendments of 1990. Participation in PJM Interconnection  
70 LLC's Emergency Load Response Program, as defined in PJM Interconnection LLC's Manual 13  
71 Emergency Operations, shall not be considered as participating in a voluntary load reduction program.  
72 The air general permit shall have requirements ensuring air quality is protected, including appropriate  
73 control technologies.

**TECHNICAL ADVISORY COMMITTEE**  
**REVISIONS DG and EG**  
**GENERAL PERMIT FOR PEAK SHAVING AND EMERGENCY GENERATORS**  
**9VAC5-530 and 9VAC5-540**

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## THE ROLE OF THE TECHNICAL ADVISORY COMMITTEE IN THE REGULATORY PROCESS

In accordance with the Administrative Process Act, general permits must be processed as regulations, including the participation of a technical advisory committee. The purpose of the technical advisory committee is to assist in the development of a proposed regulation consisting of a general permit. This committee has been formed to balance the concerns of all those interested in this particular regulation. All such concerns will be addressed by the committee, and any committee member is free to advance any opinion.

DEQ staff members within this committee are also free to advance any opinion, but these opinions are not those of DEQ management. Of DEQ staff on the committee, the Office of Air Regulatory Development will coordinate the committee's activity, provide staff support, draft the regulation, and act as the committee's liaison to DEQ management, the State Air Pollution Control Board, EPA, and the Office of Attorney General.

Technical advisory committee meetings are public. Anyone may attend and observe the proceedings; however, only committee members may participate.

The role of the committee is **advisory**. The committee's function is to make recommendations to DEQ management and to the board on a specific action. **Neither** DEQ nor the board is obligated to accept the committee's recommendations.

The committee's primary responsibility is to collaboratively develop a regulation that is in the in the best interests of the Commonwealth as a whole. Because the committee represents different interests, all members should expect to compromise in order to accomplish the committee's mission. If the committee cannot reach consensus, staff will present the differing opinions to DEQ management and the board. **A divided opinion will significantly decrease the committee's impact.**

After the committee makes its recommendations, DEQ management will develop the department's position, which will be sent to the board prior to the meeting at which it addresses this issue. In turn, the board will decide if DEQ's recommendation should be modified before the proposed regulation is promulgated for public comment. The documentation sent to the board before the meeting will also be sent to the committee. As with all other members of the public, committee members are free to attend the meeting at which DEQ will present its recommendation, but the board will not receive comment at that time. Public comment will be received only after the proposed regulation has been promulgated for public comment.

After the board approves the promulgation of the proposal, the proposed regulation will undergo executive review and then be published in the Virginia Register, marking the beginning of a 60-day comment period. During this period, any member of the public may comment on the proposed regulation. These comments will be forwarded to the board and will be responded to in the public record. Any member of the committee, like any other member of the public, is free to express any opinion on the proposed regulation.

The key steps in the regulation development process are provided in the attached table.



**Virginia Regulation Adoption Process  
General Permits – Exempted APA Process**

**Key Steps**

The maximum or minimum number of days allotted to accomplish each step as mandated by law or executive order is indicated after each step, as applicable.

*Regulatory action notification stage.*

1. Agency makes determination to promulgate regulation.
2. Agency prepares and transmits NOIRA to Registrar of Regulations (14 days maximum).
3. Registrar publishes NOIRA in Virginia Register (20 days minimum).
4. Public comment period opens (30 days maximum for steps 10, 11, and 12).
5. Agency holds public meeting.
6. NOIRA comment period closes.

*Proposed regulation development and promulgation stage.*

13. Agency prepares, **in conjunction with technical advisory committee**, proposed regulation (**180 days maximum** for steps 13, 14, 15 and 16).
14. Agency presents proposed regulation to Board for publication approval.
15. Attorney General sends statutory authority statement to agency.
24. Agency submits regulatory review package to Registrar (14 days maximum).
25. Proposed regulation published in Virginia Register (20 days minimum).
26. Public comment period opens (60 days minimum for steps 26, 27, 28, and 29).
27. Public hearing(s) held on proposed regulation.
28. Governor submits comments to Virginia Register for publication.
29. Public comment period closes.

*Final regulation development and promulgation stage.*

30. Agency addresses public comments and prepares changes to proposed regulation (120 days maximum for steps 30, 31, 32, and 33).
31. Agency submits proposed regulation with any suggested changes to Board for approval as final regulation.
32. Attorney General sends statutory authority statement to agency.
33. Agency transmits final regulation to Virginia Register for publication.
34. Registrar publishes final regulation in Virginia Register (20 days minimum).
35. Final adoption period commences (30 days minimum for steps 35 and 36).
36. Final adoption period ends.
37. Final regulation becomes effective immediately or on date specified by agency.

## Emergency Generator General Permit

### Applicability:

- A. The affected units to which this chapter applies is each emergency generation source that operates 500 hours or less for which construction, installation, reconstruction, modification, or operation is commenced after the date of this general permit and that meets the requirements stated below:
  - a. For distillate oil and or bio-diesel fired engines: Engines with an aggregate rated electrical power output greater than or equal to 1125 kW (1,675 hp) and less than ## kW (## hp).
  - b. For natural gas and/or liquid propane gas fired engines: Engines with an aggregate rated electrical power output greater than or equal to ## kW (## hp) and less than ## kW (## hp).
- B. Any emergency generation source that is a major source, as defined in 9 VAC 5-80-1615, is not eligible for this general permit.
- C. Any emergency generation source that is located at a major source, as defined in 9 VAC 5-80-1615, is not eligible for this general permit.
- D. Any emergency generation source that operates voluntarily for the purpose of peak-shaving, demand response, or as part of any other interruptible power supply arrangement with a power provider, other market participant, or system operator is not eligible for this general permit.

### Definitions:

*Bio-diesel* means a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100, and meeting the requirements of ASTM D 6751. Biodiesel may be designated as B100 (for 100% biodiesel) or may be designated as a blend with diesel oil; for example B20 (20% bio-diesel mixed with 80% petroleum diesel). Only glycerol-free bio-diesel can be burned.

*Emergency* means a condition that arises from sudden and reasonably unforeseeable events where the primary energy or power source is disrupted or disconnected due to conditions beyond the control of an owner or operator of a facility including:

- a. A failure of the electrical grid,
- b. On-site disaster or equipment failure,
- c. Public service emergencies such as flood, fire, natural disaster, or severe weather conditions,
- d. An ISO-declared emergency, where an ISO emergency is:
  - An abnormal system condition requiring manual or automatic action to maintain system frequency, to prevent loss of firm load, equipment damage,



or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property.

- Capacity deficiency or capacity excess conditions.
- A fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel.
- Abnormal natural events or man-made threats that would require conservative operations to posture the system in a more reliable state.
- An abnormal event external to the ISO service territory that may require ISO action.

*Emergency generation source* means a stationary internal combustion engine that operates according to the procedures in the ISO's emergency operations manual during an ISO-declared emergency.

*Independent system operator (ISO)* means a person that may receive or has received, by transfer pursuant to §56-576, any ownership or control of, or any responsibility to operate, all or part of the transmission systems in the Commonwealth.

*ISO-declared emergency* means a condition that exists when the independent system operator (ISO) notifies electric utilities that an emergency exists or may occur and that complies with the definition of "emergency" adopted by the Board pursuant to 10.1-1307.02 B.

*Tier 1* means an emergency generator source that meets Tier 1 standards. Tier 1 standards were published as a final rule on June 17, 1994.

*Tier 2* means an emergency generator source that meets Tier 2 standards. Tier 2 standards were published as a final rule on October 23, 1998.

#### **Monitoring Requirements:**

1. **Hour Meter Device** – The permittee shall install and use a non-resettable hour metering device to monitor the monthly and yearly operating hours for each emergency generator source, calculated monthly as the sum of each consecutive 12-month period. Each metering device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations.

#### **Operating Limitations:**

2. **Operating Hours** - Each emergency generator source shall not operate more than 500 hours per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.



3. **Fuel** - The approved fuels for each emergency generator source are distillate oil, natural gas, liquid propane gas, and/or bio-diesel.

4. **Fuel** - The approved fuels shall meet the specifications below:

DISTILLATE OIL which meets the ASTM D396 specification for numbers 1 or 2 fuel oil:

Maximum sulfur content per shipment: 0.05%

NATURAL GAS:

Minimum heat content: 1000 Btu/cf HHV  
as determined by ASTM D1826, D2382, or a DEQ-approved equivalent method.

LIQUID PROPANE GAS, including butane and propane, which meets ASTM specification D1835

BIO-DIESEL which meets ASTM specification D6751

Maximum sulfur content per shipment: 0.05%

5. **Fuel Certification** – If distillate oil or bio-diesel is used, the permittee shall obtain a certification from the fuel supplier with each shipment of distillate oil or bio-diesel. Each fuel supplier certification shall include the following:

- a. The name of the fuel supplier;
- b. The date on which the distillate oil or bio-diesel was received;
- c. The quantity of distillate oil or bio-diesel delivered in the shipment;
- d. A statement that the distillate oil complies with the American Society for Testing and Materials specifications (ASTM D396) for numbers 1 or 2 fuel oil;
- e. A statement that the bio-diesel complies with the American Society for Testing and Materials specifications (ASTM D6751); and
- f. The sulfur content of the distillate oil or bio-diesel.

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**Emission Limits:**

6. **Process Emission Limits** - Emissions from the operation of each emergency generation source when burning distillate oil and/or biodiesel shall not exceed the limits specified below:

| Stationary Compression Ignition Internal Combustion Engines (CI ICE) |                                |                     |        |                           |       |        |                 |      |      |  |
|--|--------------------------------|---------------------|--------|---------------------------|-------|--------|-----------------|------|------|--|
| Engine Year  | Displacement (liters/cylinder) | Generator Size (kW) | Tier   | Emission Limits (g/kW-hr) |       |        |                 |      |      |  |
|  |                                |                     |        | PM                        | PM-10 | PM 2.5 | SO <sub>2</sub> | CO   | VOC  | NO <sub>x</sub>                            |
| Pre 2007   | Less than 10                   | 1,125 ≤ x < high    | N/A    | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 0.43 | 9.2  |
| 2007 and later   | Less than 10                   | 1,125 ≤ x ≤ 2,237   | Tier 1 | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 0.43 | 9.2  |
|  |                                |                     | Tier 2 | 0.2                       | 0.2   | 0.2    | 0.25            | 3.34 | 6.4* |  |
| 2007 - 2010  | Less than 10                   | 2,237 < x ≤ high    | N/A    | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 0.43 | 9.2  |
| 2011 and later   | Less than 10                   | 2,237 < x ≤ high    | Tier 1 | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 0.43 | 9.2  |
|  |                                |                     | Tier 2 | 0.2                       | 0.2   | 0.2    | 0.25            | 3.34 | 6.4* |  |
| 2007 and later   | 10 ≤ x < 30                    | 2,237 < x ≤ high    | Tier 1 | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 0.43 | 17.0**<br>45.0 x N <sup>-0.20</sup><br>9.8 |
| 2007 and later   | 15.0 ≤ x < 20.0                | 1,125 ≤ x < 3,300   | Tier 2 | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 8.7* |  |
| 2007 and later   | 15.0 ≤ x < 20.0                | 3,300 ≤ x ≤ high    | Tier 2 | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 9.8* |  |
| 2007 and later   | 20.0 ≤ x < 25.0                | 1,125 ≤ x < high    | Tier 2 | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 9.8* |  |
| 2007 and later   | 25.0 ≤ x < 30.0                | 1,125 ≤ x < high    | Tier 2 | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 11*  |  |
| 2007 and later   | x ≥ 30                         | 1,125 ≤ x < high    | N/A    | 0.15                      | 0.15  | 0.15   | 0.25            | 3.34 | 0.43 | 1.6  |

\*Combined limit for VOC and NO<sub>x</sub>

\*\* 17.0 g/kW-hr when maximum test speed is less than 130 rpm  
 45.0 x N<sup>-0.20</sup> when maximum test speed is 130 rpm ≤ x < 2000 rpm, where N is the maximum speed test of the engine in revolutions per minute  
 9.8 g/kW-hr when the maximum test speed is 2000 rpm or more

| Stationary Spark Ignition Internal Combustion Engines (SI ICE) |                     |                           |       |        |                 |      |      |                 |  |
|--|---------------------|---------------------------|-------|--------|-----------------|------|------|-----------------|--|
| Engine Year  | Generator Size (kW) | Emission Limits (g/kW-hr) |       |        |                 |      |      |                 |  |
|  |                     | PM                        | PM-10 | PM 2.5 | SO <sub>2</sub> | CO   | VOC  | NO <sub>x</sub> |  |
| Pre 1/1/2009   | 1,125 ≤ x < high    | 0.43                      | 0.43  | 0.43   | 0.25            | 3.34 | 0.43 | 14.60           |  |
| 1/1/2009 and later   | 1,125 ≤ x < high    | 0.43                      | 0.43  | 0.43   | 0.25            | 2.98 | 0.43 | 1.49            |  |





7. **Process Emission Limits** - Emissions from the operation of each emergency generation source when burning natural gas and/or propane shall not exceed the limits specified below:

| Stationary Compression Ignition Internal Combustion Engines (CI ICE) |                                |                     |        |                           |       |        |                 |      |      |  |
|--|--------------------------------|---------------------|--------|---------------------------|-------|--------|-----------------|------|------|--|
| Engine Year  | Displacement (liters/cylinder) | Generator Size (kW) | Tier   | Emission Limits (g/kW-hr) |       |        |                 |      |      |  |
|  |                                |                     |        | PM                        | PM-10 | PM 2.5 | SO <sub>2</sub> | CO   | VOC  | NO <sub>x</sub>                            |
| Pre 2007   | Less than 10                   | low ≤ x < high      | N/A    | 0.54                      | 0.54  | 0.54   | 0.001           | 11.4 | 1.3  | 9.2  |
| 2007 and later   | Less than 10                   | low ≤ x ≤ 2,237     | Tier 1 | 0.54                      | 0.54  | 0.54   | 0.001           | 11.4 | 1.3  | 9.2  |
|  |                                |                     | Tier 2 | 0.2                       | 0.2   | 0.2    | 0.001           | 3.5  | 6.4* |  |
| 2007 - 2010  | Less than 10                   | 2,237 < x ≤ high    | N/A    | 0.54                      | 0.54  | 0.54   | 0.001           | 11.4 | 1.3  | 9.2  |
| 2011 and later   | Less than 10                   | 2,237 < x ≤ high    | Tier 1 | 0.54                      | 0.54  | 0.54   | 0.001           | 11.4 | 1.3  | 9.2  |
|  |                                |                     | Tier 2 | 0.2                       | 0.2   | 0.2    | 0.001           | 3.5  | 6.4* |  |
| 2007 and later   | 10 ≤ x < 30                    | 2,237 < x ≤ high    | Tier 1 | 0.015                     | 0.015 | 0.015  | 0.001           | 5.75 | 0.19 | 17.0**<br>45.0 x N <sup>-0.20</sup><br>9.8 |
| 2007 and later   | 15.0 ≤ x < 20.0                | low ≤ x < 3,300     | Tier 2 | 0.5                       | 0.5   | 0.5    | 0.001           | 5.0  | 8.7* |  |
| 2007 and later   | 15.0 ≤ x < 20.0                | 3,300 ≤ x ≤ high    | Tier 2 | 0.5                       | 0.5   | 0.5    | 0.001           | 5.0  | 9.8* |  |
| 2007 and later   | 20.0 ≤ x < 25.0                | low ≤ x < high      | Tier 2 | 0.5                       | 0.5   | 0.5    | 0.001           | 5.0  | 9.8* |  |
| 2007 and later   | 25.0 ≤ x < 30.0                | low ≤ x < high      | Tier 2 | 0.5                       | 0.5   | 0.5    | 0.001           | 5.0  | 11*  |  |
| 2007 and later   | x ≥ 30                         | low ≤ x < high      | N/A    | 0.15                      | 0.15  | 0.15   | 0.001           | 11.4 | 1.3  | 1.6  |

\*Combined limit for VOC and NO<sub>x</sub>

\*\* 17.0 g/kW-hr when maximum test speed is less than 130 rpm

45.0 x N<sup>-0.20</sup> when maximum test speed is 130 rpm ≤ x < 2000 rpm, where N is the maximum speed test of the engine in revolutions per minute

9.8 g/kW-hr when the maximum test speed is 2000 rpm or more

| Stationary Spark Ignition Internal Combustion Engines (SI ICE) |                     |   |                           |       |        |                 |       |      |                 |  |
|--|---------------------|---|---------------------------|-------|--------|-----------------|-------|------|-----------------|--|
| Engine Year  | Generator Size (kW) | Type of Engine**  | Emission Limits (g/kW-hr) |       |        |                 |       |      |                 |  |
|  |                     |   | PM                        | PM-10 | PM 2.5 | SO <sub>2</sub> | CO    | VOC  | NO <sub>x</sub> |  |
| 2004-2006  | low ≤ x < high      | Rich-Burn that use LPG<br>SS Cert. and<br>production-line testing | SS In-use testing         | 0.015 | 0.015  | 0.015           | 0.001 | 50.0 | 4.0*            |  |
|  |                     |   | SS In-use testing         | 0.015 | 0.015  | 0.015           | 0.001 | 50.0 | 5.4*            |  |
| 2007 and later   | low ≤ x < high      | Rich-Burn that use LPG<br>SS Testing                              | 0.015                     | 0.015 | 0.015  | 0.001           | 4.4   | 2.7* |                 |  |



|                    |                |   |       |        |        |       |      |      |      |
|--------------------|----------------|---|-------|--------|--------|-------|------|------|------|
| 2007 and later     | low ≤ x < high | Rich-Burn that use LPG<br>Field Testing | 0.015 | 0.015  | 0.015  | 0.001 | 6.5  | 3.8* |      |
| Pre 1/1/2009       | low ≤ x < high | 2-Stroke Lean-Burn                      | 0.015 | 0.059  | 0.059  | 0.001 | 0.60 | 0.19 | 4.9  |
|                    |                | 4-Stroke Lean-Burn                      | 0.015 | 0.0001 | 0.0001 | 0.001 | 0.49 | 0.18 | 6.3  |
|                    |                | 4-Stroke Rich-Burn                      | 0.015 | 0.015  | 0.015  | 0.001 | 5.75 | 0.05 | 3.4  |
| 1/1/2009 and later | low ≤ x < high | N/A                                     | 0.015 | 0.015  | 0.015  | 0.001 | 2.98 | 0.75 | 1.49 |

\*Combined limit for VOC and NO<sub>x</sub>

\*\*SS = Steady State

8. **Process Emission Limits** – Combined facility wide emissions from the operation of the emergency generation sources shall not exceed the limits specified below:

| Pollutant       | Emissions<br>(tons/yr) |
|-----------------|------------------------|
| PM              | 25                     |
| PM-10           | 15                     |
| PM 2.5          | 10                     |
| NO <sub>x</sub> | 40                     |
| SO <sub>2</sub> | 40                     |
| CO              | 100                    |
| VOC             | 40                     |

9. **Visible Emission Limit** - Visible emissions from each emergency generator source shall not exceed 10 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.

**Records:**

10. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this general permit. The content and format of such records shall be arranged with the Regional Office. These records shall include, but are not limited to:
- Total annual hours of operation for each emergency generator source, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
  - Records when each emergency generator source is used for an ISO-declared emergency, including, but not limited to, the date, cause of the emergency, the ISO-declared emergency notification, and the hours of operation.



c. Records when each emergency generator source is used for an emergency that is not an ISO-declared emergency, including, but not limited to, the date, cause of the emergency, and the hours of operation.

d. All fuel supplier certifications.

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e. Engine information including make, model, serial number, model year, maximum engine power, and engine displacement for each emergency generator source.

f. Written manufacturer specifications or written standard operating procedures prepared by the permittee for each emergency generator source.

g. Scheduled and unscheduled maintenance/testing and operator training.

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These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

#### **Testing Requirements:**

11. **Emissions Testing** - Each emergency generator source shall be constructed/modified/installed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.

#### **Notifications:**

12. **Initial Notifications** - The permittee shall furnish written notification to the Regional Office of:

a. The actual date on which construction/modification/reconstruction of each emergency generator source commenced within 30 days after such date.

b. The actual start-up date of each emergency generator source within 15 days after such date.

#### **General Requirements:**

13. **Permit Invalidation** – This general permit to construct, install, reconstruct, modify, or operate each emergency generation source shall become invalid, unless an extension is granted by the DEQ, if:

a. A program of continuous construction, reconstruction, or modification is not commenced within the latest of the following:

i. 18 months from the date that this general permit is issued to the permittee;

ii. Nine months from the date that the last permit or other authorization was issued from any other governmental entity;



- iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or
  - b. A program of construction, reconstruction, or modification is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.
14. **Permit Suspension/Revocation** - This general permit may be suspended or revoked if the permittee:
- c. Knowingly makes material misstatements in the permit application or any amendments to it;
  - d. Fails to comply with the conditions of this general permit;
  - e. Fails to comply with any emission standards applicable to a permitted emissions unit;
  - f. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or
  - g. Fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.
15. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:
- a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
  - b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
  - c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
  - d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.





16. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

17. **Record of Malfunctions** – The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.

18. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Regional Office.

19. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.



20. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Regional Office of the change of ownership within 30 days of the transfer.
21. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.

