



General State Permit

GSP-EG-_____

Source Category: Internal Combustion Engines Used as Emergency Generators

This general state permit is established in accordance with New Hampshire Code of Administrative Rules, Env-A 620, *Procedures for Establishing and Reestablishing General State Permits*, Env-A 610, *General State Permits and General Permits Under Title V*, and RSA 125-C of the New Hampshire Laws. The established milestones are as follows:

Date of Proposed General State Permit	February 25, 2008
Date Proposed General State Permit was Sent to EPA	February 28, 2008
Public Notice Date	February 27, 2008
Close of Public Comment Period	March 28, 2008
Public Hearing Date	None requested
Public Notice Date for Permit Expiration Date Extension	December 17, 2012
Expiration Date of General State Permit	April 30, 2014

This General State Permit (GSP) is issued for the specific emergency generator(s) described in the registration package submitted to the New Hampshire Department of Environmental Services, Air Resources Division (Division) in accordance with Env-A 610.07, *Procedures for Registering to Operate Under a General State Permit*. Any replacement emergency generator (EG) or additional EG would require a new or updated registration package to be submitted to the Division for review.

Craig Wright
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Acting Director
Air Resources Division

December 17, 2012
Date of Final Action –
Permit Extension

Abbreviations and Acronyms

ASTM	American Society of Testing and Materials
Btu	British thermal units
CFR	Code of Federal Regulations
CO	Carbon Monoxide
Division	New Hampshire Department of Environmental Services, Air Resources Division
Env-A	New Hampshire Code of Administrative Rules – Air Resources Division
EG	Emergency Generator
GSP	General State Permit
hr	hour
ICE	Internal Combustion Engine
lb	pound
MM	million
NO _x	Oxides of Nitrogen
PM ₁₀	Particulate Matter < 10 microns
ppm	parts per million
RSA	Revised Statutes Annotated
SO ₂	Sulfur Dioxide
TSP	Total Suspended Particulate
tpy	tons per consecutive 12-month period
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

I. Source Category Description and Definitions

- A. The source category Internal Combustion Engines Used as Emergency Generators is applicable to one or more internal combustion engines (ICEs), excluding any unit with a design rating less than or equal to 150,000 British thermal units per hour (Btu/hr), operated at a source as an EG as defined in Condition I.B, which either:
1. Combusts liquid fuel oil for which the combined total design gross heat input for all such engines is greater than or equal to 1.5 million British thermal units per hour (MMBtu/hr);
 2. Combusts natural gas or liquefied propane gas for which the combined total design gross heat input of all such engines is greater than or equal to 10.0 MMBtu/hr; or
 3. Has the potential to emit any single regulated air pollutant in an amount greater than 25 tons per consecutive 12-month period (tpy).
- B. Env-A 101.66.1, *Definitions*. “Emergency generator” means a stationary ICE or stationary combustion turbine which operates as a mechanical or electrical power source only when the primary power source for a facility is not available during an emergency such as a power outage, or during the normal maintenance and testing procedure as recommended by the manufacturer. The term does not include a load-shaving unit or peaking power production unit, but does include the operation of the emergency generator during periods in which ISO New England, or any successor Regional Transmission Organization, directs the implementation of operating procedures for voltage reductions of 5% of normal operating voltage requiring more than 10 minutes to implement, voluntary load curtailments by customers, or automatic or manual load shedding within New Hampshire or within the entire New England region, in response to, or to prevent the occurrence of, unusually low frequency, equipment overload, capacity or energy deficiency, unacceptable voltage levels, or other such emergency conditions.

II. Operating and Emission Limitations

The Owner or Operator shall be subject to the operating and emission limitations identified in Table 1:

Table 1 - Operating and Emission Limitations		
Item #	Requirement	Regulatory Basis
1	<p><u><i>Facility-Wide Emission Limitations</i></u>¹</p> <p>a. Facility-wide emissions of SO₂, PM₁₀, and CO shall be limited to less than 100 tpy;</p> <p>b. Facility-wide emissions of NO_x and VOCs shall be limited to less than 50 tpy.</p>	Env-A 604.02(a)(1), and Env-A 1211.01(n)
2	<p><u><i>Emergency Generators</i></u></p> <p>Each EG shall be limited to 500 hours of total operation during any consecutive 12-month period.</p>	Env-A 1211.01(j)(1)
3	<p><u><i>Emergency Generators Manufactured After April 1, 2006</i></u></p> <p>Each oil-fired EG manufactured after April 1, 2006 shall be limited to 100 hours of operation for maintenance checks and readiness testing during any consecutive 12-month period.</p>	40 CFR 60.4211(e) (Subpart III)
4	<p><u><i>Fuel Usage Limitations</i></u></p> <p>Total fuel consumption during any consecutive 12-month period for each EG covered by this GSP shall not exceed a quantity of fuel that would result in an exceedance of any condition specified in this GSP.</p>	Env-A 604.02(a)(2)
5	<p><u><i>Visible Emission Standard for Fuel Burning Devices Installed on or Prior to May 13, 1970</i></u></p> <p>The average opacity from fuel burning devices installed on or prior to May 13, 1970 shall not exceed 40 percent for any continuous 6-minute period.²</p>	Env-A 2002.01
6	<p><u><i>Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970</i></u></p> <p>The average opacity from fuel burning devices installed after May 13, 1970 shall not exceed 20 percent for any continuous 6-minute period.</p>	Env-A 2002.02
7	<p><u><i>Activities Exempt from Visible Emission Standards</i></u></p> <p>The average opacity shall be allowed to be in excess of the standards specified in Table 1, Items 5 and 6, for one period of 6 continuous minutes in any 60-minute period during startup, shutdown, or malfunction.</p>	Env-A 2002.04(c)

¹ Facility-wide emission limits are set for the purpose of establishing this source as a minor source of air pollution. Such limits shall not be construed to allow this source to construct or install a new or modified source, area source or device except in the manner set forth in the New Hampshire Rules Governing the Control of Air Pollution and, specifically, Env-A 603. Compliance with Item 1 of Table 1 is to be verified using fuel usage records and the appropriate USEPA AP-42 emission factors, manufacturer's certified emission rates or stack test data.

² Compliance with visible emission limitations shall be determined using 40 CFR 60, Appendix A, Method 9, upon request by the Division.

Table 1 - Operating and Emission Limitations		
Item #	Requirement	Regulatory Basis
8	<p><u>Particulate Emission Standards for Fuel Burning Devices Installed on or Prior to May 13, 1970</u></p> <p>a. For devices that have a maximum gross heat input rate of less than 10 MMBtu/hr, the particulate emission rate shall not exceed 0.60 lb/MMBtu.</p> <p>b. For devices that have a maximum gross heat input rate of equal to or greater than 10 MMBtu/hr, the allowable particulate emission rate (E) shall be calculated by raising the heat input rate (I) to the -0.166 power, and multiplying the result by 0.880 as shown in the following formula: $E = 0.880I^{-0.166}$</p>	Env-A 2002.06
9	<p><u>Particulate Emission Standards for Fuel Burning Devices Installed After May 13, 1970, but before January 1, 1985</u></p> <p>a. For devices that have a maximum gross heat input rate of less than 10 MMBtu/hr, the particulate emission rate shall not exceed 0.60 lb/MMBtu.</p> <p>b. For devices that have a maximum gross heat input rate of equal to or greater than 10 MMBtu/hr, the allowable particulate emission rate (E) shall be calculated by raising the heat input rate (I) to the -0.234 power, and multiplying the result by 1.028 as shown in the following formula: $E = 1.028I^{-0.234}$</p>	Env-A 2002.07
10	<p><u>Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985</u></p> <p>The particulate matter emissions from fuel burning devices installed on or after January 1, 1985 shall not exceed 0.30 lb/MMBtu.</p>	Env-A 2002.08
11	<p><u>Maximum Sulfur Content Allowable in Liquid Fuels</u></p> <p>a. The sulfur content of No. 2 oil shall not exceed 0.40 percent sulfur by weight; and</p> <p>b. The sulfur content of kerosene-1 oil shall not exceed 0.04 percent sulfur by weight.</p>	Env-A 1604.01(a) Env-A 1604.01(e)
12	<p><u>Sulfur Content Limitations for Gaseous Fuels</u></p> <p>Gaseous fuels shall contain no more than 15 grains of sulfur per 100 cubic feet of gas at standard temperature and pressure.</p>	Env-A 1605.01
13	<p><u>Fuel Requirements for EGs manufactured after April 1, 2006 and Fire Pumps manufactured after July 1, 2006</u></p> <p>a. Beginning October 1, 2007, the sulfur content of liquid fuel shall not exceed 500 ppm (0.05 % by weight); and</p> <p>b. Beginning October 1, 2010, the sulfur content of liquid fuel shall not exceed 15 ppm (0.0015% by weight).</p>	40 CFR 60.4207 (Subpart III)

III. Monitoring and Testing Requirements

The Owner or Operator is subject to the monitoring and testing requirements as contained in Table 2:

Table 2 - Monitoring and Testing Requirements				
Item #	Parameter	Method of Compliance	Frequency	Regulatory Basis
1	To Be Determined	When conditions warrant, the Division may require the Owner or Operator to conduct stack testing in accordance with USEPA or other Division approved methods.	Upon request by the Division	RSA 125-C:6 XI
2	Sulfur Content of Liquid Fuels	Conduct testing in accordance with appropriate ASTM test methods or retain delivery tickets in accordance with Table 3, Item 3 in order to demonstrate compliance with the sulfur content limitation provisions specified in this permit for liquid fuels.	For each delivery of fuel oil/diesel to the Facility	Env-A 806.02 & Env-A 806.05
3	Sulfur content of gaseous fuels	Conduct testing to determine the sulfur content in grains of sulfur per 100 cubic feet, of gaseous fuels.	Upon written request by EPA or the Division	Env-A 806.03
4	Hours of Operation	Oil-fired EGs manufactured after April 1, 2006, shall be equipped with a non-resettable hour meter.	Continuous	40 CFR 60.4209(a) (Subpart III)

IV. Recordkeeping Requirements

The Owner or Operator shall be subject to the recordkeeping requirements identified in Table 3:

Table 3 - Recordkeeping Requirements			
Item #	Requirement	Duration/ Frequency	Regulatory Basis
1	<u>Record Retention and Availability</u> Keep the required records on file. These records shall be available for review by the Division upon request.	Retain for a minimum of 5 years	Env-A 902
2	<u>General Recordkeeping Requirements for Combustion Devices</u> Maintain the following records: a. Type (e.g. diesel fuel, natural gas) and amount of fuel burned; and b. Hours of operation for each emergency generator.	Monthly	Env-A 903.03
3	<u>Liquid Fuel Oil Recordkeeping Requirements</u> In lieu of sulfur testing pursuant to Table 2, Item 2, the Owner or Operator may maintain a written statement from the fuel supplier that the sulfur content of the fuel as delivered does not exceed state or federal standards for that fuel.	Whenever there is a change in fuel supplier, but at least annually	Env-A 806.05

Table 3 - Recordkeeping Requirements

Item #	Requirement	Duration/ Frequency	Regulatory Basis
4	<p><u><i>Gaseous Fuel Recordkeeping Requirements</i></u> Maintain one of the following:</p> <ul style="list-style-type: none"> a. Sulfur content as percent sulfur by weight or in grains per 100 cubic feet of fuel; b. Documentation that the fuel source is from a utility pipeline; or c. Documentation that the fuel meets state sulfur limits. 	Whenever there is a change in fuel supplier, but at least annually	Env-A 903.03
5	<p><u><i>General NO_x Recordkeeping Requirements</i></u> If the actual annual NO_x emissions from the Facility are greater than or equal to 10 tpy, then record the following information:</p> <ul style="list-style-type: none"> a. Identification of each fuel burning device; b. Operating schedule during the high ozone season (June 1 through August 31) for each fuel burning device identified in Table 3, Item 5.a, above, including: <ul style="list-style-type: none"> 1. Typical hours of operation per day; 2. Typical days of operation per calendar month; 3. Number of weeks of operation; 4. Type and amount of each fuel burned; 5. Heat input rate in MMBtu/hr; 6. Actual NO_x emissions for the calendar year and a typical high ozone day during that calendar year; and 7. Emission factors and the origin of the emission factors used to calculate the NO_x emissions. 	Maintain Current Data	Env-A 905.02
6	<p><u><i>Recordkeeping Requirements for Oil-Fired EGs Manufactured after April 1, 2006</i></u></p> <ul style="list-style-type: none"> a. Maintain documentation from the manufacturer certifying that the engine complies with the applicable emission standards stated in 40 CFR 60 Subpart III. b. Record the time of operation of the engine and the reason the engine was in operation during that time. 	Maintain Current Data	40 CFR 60.4211 (Subpart III)

V. Reporting Requirements

The Owner or Operator shall be subject to the reporting requirements identified in Table 4 below. All emissions data submitted to the Division shall be available to the public. Claims of confidentiality for any other information required to be submitted to the Division pursuant to this permit shall be made at the time of submission in accordance with Env-A 103, *Claims of Confidentiality*.

Table 4 - Reporting Requirements			
Item #	Requirement	Frequency	Regulatory Basis
1	<p><u><i>Annual Emissions Report</i></u> Submit an annual emissions report which shall include the following information:</p> <ul style="list-style-type: none"> a. Actual calendar year emissions from each device of NO_x, CO, SO₂, TSP, VOCs, and HAPs; b. The methods used in calculating such emissions in accordance with Env-A 705.02, <i>Determination of Actual Emissions for Use in Calculating Emission-Based Fees</i>; and c. All information recorded in accordance with Table 3, Items 2, 3 and 4. 	Annually (no later than April 15th of the following year)	Env-A 907.01
2	<p><u><i>NO_x Emission Statements Reporting Requirements</i></u> If the actual annual NO_x emissions for the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report:</p> <ul style="list-style-type: none"> a. A breakdown of NO_x emissions reported pursuant to Table 4, Item 1 by month; and b. All data recorded in accordance with Table 3, Item 5. 	Annually (no later than April 15th of the following year)	Env-A 909
3	<p><u><i>Permit Deviation Reporting Requirements</i></u> Report permit deviations that cause excess emissions in accordance with Condition VI.B.</p>	Within 24 hours of discovery of excess emission	Env-A 911.04(b)
4	<p><u><i>Emission Based Fees</i></u> Pay emission-based fees in accordance with Condition VII.</p>	Annually (no later than April 15th of the following year)	Env-A 700

VI. Permit Deviation Reporting Requirements

- A. Env-A 101, *Definitions*:
1. A *permit deviation* is any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in either a Title V permit, state permit to operate, temporary permit or general state permit issued by the Division.
 2. An *excess emission* is an air emission rate that exceeds any applicable emission limitation.
- B. Env-A 911.04(b), *Reporting Requirements*: In the event of a permit deviation that causes excess emissions, notify the Division of the permit deviation and excess emissions by telephone (603-271-1370), fax (603-271-7053) or e-mail (pdeviations@des.state.nh.us), within 24 hours of discovery of the permit deviation, unless it is a Saturday, Sunday, or state or federal legal holiday, in which event, the Division shall be notified on the next day which is not a Saturday, Sunday, or state or federal legal holiday.

VII. Emission-Based Fee Requirements

- A. Env-A 705.01, *Emission-based Fees*: The Owner or Operator shall pay to the Division each year an emission-based fee for emissions from the devices covered under this GSP.
- B. Env-A 705.02, *Determination of Actual Emissions for use in Calculating of Emission-based Fees*: The Owner or Operator shall determine the total actual annual emissions from the devices covered under this GSP for each calendar year in accordance with the methods specified in Env-A 616, *Determination of Actual Emissions*. If the emissions are determined to be less than one ton, the emission-based fee shall be calculated using an emission-based multiplier of one ton.
- C. Env-A 705.03, *Calculation of Emission-based Fees*: The Owner or Operator shall calculate the annual emission-based fee for each calendar year in accordance with the procedures specified in Env-A 705.03 and the following equation:

$$FEE = E * DPT$$

where:

FEE = The annual emission-based fee for each calendar year as specified in Env-A 705;

E = Total actual emissions as determined pursuant to Condition VII.B; and

DPT = The dollar per ton fee the Division has specified in Env-A 705.03(e).

- D. Env-A 705.04, *Payment of Emission-based Fee*: The Owner or Operator shall submit, to the Division, payment of the emission-based fee by April 15th for emissions during the previous calendar year. For example, the fees for calendar year 2008 shall be submitted on or before April 15, 2009.