

Jeffrey W. Cown, Director Environmental Protection Division State of Georgia Department of Natural Resources Environmental Protection Division

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2. Allowable Emissions

MODIFIED CONDITIONS

- 2.2 The Permittee shall comply with all applicable provisions of 40 CFR Part 60 New Source Performance Standards (NSPS) Subpart A – "General Provisions" and Subpart IIII – "Standards for Stationary Compression Ignition Internal Combustion Engines," for the operation of emergency generators with source codes GN13 through GN60. [40 CFR 60, Subparts A and IIII]
- 2.3 The Permittee shall comply with all applicable provision of 40 CFR 63, Subpart A "General Provisions" and 40 CFR 63, Subpart ZZZZ "National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [RICE]" for operation of emergency generators with source codes GN13 through GN60 by complying with 40 CFR 60 Subpart IIII. [40 CFR 63, Subparts A and ZZZZ]
- 2.7 The Permittee shall only use diesel fuel that has a maximum sulfur content of 15 ppm (0.0015% by weight) and either a minimum cetane index of 40 or maximum aromatic content of 35 volume percent for the emergency generators with source codes GN13 through GN60.

[40 CFR 60.4207 and 391-3-1-.02(2)(g) subsumed]

4. Process & Control Equipment

MODIFIED CONDITION

4.1 Each emergency generator with source codes GN13 through GN60 shall be operated and maintained according to the manufacturer's emission-related written specifications/ instructions or procedures developed by the Permittee that are approved by the engine manufacturer, over the entire life of the engine. In addition, the Permittee shall only change those emission-related settings that are permitted by the manufacturer. [40 CFR 60.4211(a)]

6. Process & Control Equipment

MODIFIED CONDITION

6.3 Within 90 days of the startup of the first emergency generators with source codes GN51 through GN60, the Permittee shall perform a measurement on one of the generator engines at 25%, 50%, 75%, and 100% load to verify the Nitrogen Oxides emission factors in Table 1 of Condition 7.4. The test measurement shall use the procedures specified in Condition 6.2. For the purposes of this condition, startup shall be defined as the emergency generator is ready to operate for its intended purpose to support the activities of the facility following all construction and commissioning activities.

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7. Notification, Reporting, and Recordkeeping Requirements

MODIFIED CONDITIONS

7.4 The Permittee shall use the operating time records required in Condition 7.1 for the emergency generators and the emission factors in Table 1 (or other emission factors which have been submitted to and approved by the Division) to calculate the monthly total NOx emissions using the following equation. All demonstration calculations shall be kept as part of the records required in Condition 7.1. The Permittee shall notify the Division in writing within 15 days if the monthly total NOx emissions equal or exceed 8.33 tons during any calendar month. This notification shall include an explanation of how the Permittee intends to maintain compliance with the emission limit in Condition 2.1. [Avoidance of 40 CFR Part 70]

Table 1: NOx Emission Factors				
Emission Unit Groups	NOx Emission Factor (lb/hr)			
	25%	50%	75%	100%
	Load	Load	Load	Load
DC1				
GN01-GN06 (Group1) – Hitec 1,440 kW	17.90	32.37	45.40	61.01
GN07-GN12 (Group 2) – Cat 2,000 kW	18.21	33.68	42.45	53.36
GN13-GN18 (Group 3) – Cat 2,250 kW	10.07	21.21	38.37	57.46
GN19-GN24 (Group 4) – Kohler 2,800 kW	10.95	21.23	37.01	52.65
GN25-GN26 (Group 5) – Cummins 1,500 kW	5.12	9.62	16.08	29.47
GN27-GN29 (Group 6) – Kohler 2,500 kW	8.78	16.96	23.66	66.67
DC2				
GN30-GN44 (Group 7) – Cummins 2,000 kW	4.63	10.57	23.67	34.14
GN45 (Group 8) – Detroit Diesel 750 kW	N/A	N/A	N/A	14.44
GN46-GN50 (Group 9) – Cat 2,500 kW	7.94	15.58	31.34	51.11
GN51-GN60 (Group 10) – Cat 2,500 kW	7.94	15.58	31.34	51.11

$$\frac{NO_{x,monthly}(tons) = \sum_{i=1}^{n} \left(ER_L + (ER_H - ER_L) \times \left(\frac{L - L_L}{L_H - L_L} \right) \left(\frac{lb}{hr} \right) \right) \times (Hr_i)}{2000 \frac{lb}{ton}}$$

Where:

NO_{x, monthly} = Total monthly NOx emissions from all emergency generators. (tons)

L = Average monthly measured generator load for each emergency generator based on actual monthly emergency generator operating hours. If the actual load is less than the minimum load in Table 1, then use the minimum load from Table 1. (%)

 L_L = Lower operating load. The closest operating load from Table 1 that is less than or equal to L. (%)

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 L_H = Higher operating load. The closest operating load from Table 1 that is greater than or equal to L. (%)

 ER_L = Lower emission rate. The emission factor from Table 1 at the lower operating load (LL). (lb/hr)

 $ER_H =$ Higher emission rate. The emission factor from Table 1 at the higher operating load (LH). (lb/hr)

Hr = The total operating hours for each engine in the month as verified by the non-resettable hour meter.

i = Generator number (GN01 through GN60).

n = Total number of emergency generators = 60

- 7.6 The Permittee shall demonstrate compliance with emission standards specified in 40 CFR 60, Subpart IIII for emergency generators with source codes GN13 through GN60 by purchasing an engine certified to the emission standards in 40 CFR60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications. These records shall be maintained in a format suitable for inspection or submittal. [40 CFR 60.4211(c)]
- 7.8 The Permittee shall maintain a copy of the manufacturer's written operating and maintenance instructions or operating and maintenance procedures developed by the Permittee that are approved by the engine manufacturer for the emergency generators with source codes GN13 through GN60. These records shall be maintained in a format suitable for inspection or submittal. [40 CFR 60.4211(a)]