GEORGIA
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ENVIRONMENTAL PROTECTION DIVISION

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NARRATIVE

TO: James Eason

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DATE: November 2, 2017

Facility Name:	**Morning Hornet, LLC**
AIRS No.:	4-13-21700072
Location:	Social Circle, Georgia (Newton County)
Application #:	26267
Date of Application:	October 23, 2017

Background Information

Morning Hornet, LLC will be a greenfield facility located south of Highway 278 NE and Shire Parkway, and north of Cooper Road in Social Circle, Georgia 30025 (Newton County). The company will be constructing and operating a planned data center with diesel-fired emergency generators to supply power during readiness testing, system maintenance and emergencies.

Newton County is listed in Rule 391-3-1-.03(8)(c)14 "Additional Provisions for Ozone Non-Attainment Areas for Counties that were Not Formerly Part of the 1-hour Ozone Non-Attainment Area" which defines a "major source" as any stationary source that emits or has the potential to emit, at least 100 tons per year of VOC or NOx.

Purpose of Application

Application No. 26267 was received on October 25, 2017 for the construction and operation of diesel-fired emergency generators to be located south of Highway 278 NE and Shire Parkway, and north of Cooper Road in Social Circle, Georgia 30025 (Newton County). The application included a request for a federally-enforceable site-wide NOx emission limitation of 99.9 tons per year, 12-month rolling basis to avoid major source status of Part 70 and NAA NSR. The proposed NOx limitation is inclusive of all engine operations, including emergency and non-emergency use. The generators will be used only for maintenance checks, readiness testing and as needed for emergency backup power in the event of utility power interruptions.

Public Advisory expires on December 1, 2017

Equipment List

Facility emission units include emergency generators and fuel storage belly tanks. The facility will have seventy-two (72) identical emergency generators that are all diesel-fired. The diesel belly tanks are exempt from state air permitting requirements pursuant to Georgia Rules for Air Quality Control 391-3-1-.03(6)(c)3.

Emission Unit ID	Input Heat Capacity (MMBtu/hr)	Description	Construction Date	Installation Date
1EG-01 through 1EG-03, 1EG-05 through 1EG-10, 1EG-12 through 1EG-14, 1EG-1R, 1EG-2R, 1EG-N1 through 1EG-N4 2EG-01 through 2EG-03, 2EG-05 through 2EG-10, 2EG-12 through 2EG-14, 2EG-1R, 2EG-2R, 2EG-N1 through 2EG-N4 3EG-01 through 3EG-03, 3EG-05 through 3EG-10, 3EG-12 through 3EG-14, 3EG-1R, 3EG-2R, 3EG-N1 through 3EG-N4 4EG-01 through 4EG-03, 4EG-05 through 4EG-10, 4EG-12 through 4EG-14, 4EG-1R, 4EG-2R, 4EG-N1 through 4EG-N4	29.2 (each)	Diesel-Fired Emergency Generators	2017	2018

Emissions Summary

NOx is the major pollutant of concern from this data center. Potential emissions are based on each generator operating at the highest emitting load, 200 hours per year [Rule (mmm)], and the manufacturer's potential site variation (not-to-exceed data) emission factors. (NOx emissions are highest at 100% load, CO emissions are the highest at 75% load, VOC emissions are the highest at 25% load, etc.)

Sample calculation:

NOx Emissions @100% Load: (71.09 lbs/hr)(200 hrs/yr)(1 ton/2000 lbs)(72 engines) = 511.8 tpy
CO Emissions @75% Load: (7.64 lbs/hr)(200 hrs/yr)(1 ton/2000 lbs)(72 engines) = 55.01 tpy

The company has requested a federally-enforceable site-wide NOx emission limit of 99.9 tons per year to be included in the Permit to limit the NOx potential-to-emit. Hours of operation and operating output load will be monitored to determine run hours and maximum engine load in kilowatts during each run. The maximum engine load during each run will be rounded up to the next highest engine load with available emissions data provided by the manufacturer. The monthly NOx emissions for each generator will then be calculated as the sum of the monthly NOx emissions at each rounded load.

Facility-Wide Emissions
(tons per year)

Pollutant	Potential Emissions
NOx	99.9*
CO	55.01
VOC	6.13
PM	2.81
$PM_{10}/PM_{2.5}$	4.43
SO_2	0.21
Max. Individual HAP	0.11
Total HAP	0.21

* 99.9 tpy NOx permit limit

Regulatory Applicability

Georgia State Rules:

391-3-1-.02(2)(b) – The allowable visible emission from the generators is 40% in accordance with Georgia Rule 391-3-1-.02(2)(b)1.

391-3-1-.02(2)(g) – The allowable fuel sulfur content is 2.5 weight percent in accordance with Georgia Rule 391-3-1-.02(2)(g)2. This requirement is subsumed by NSPS IIII requirement, which requires maximum fuel oil sulfur requirement of 15 ppm (0.0015% by weight).

391-3-1-.02(2)(n) – The percent opacity from any fugitive dust source shall not equal or exceed 20 percent. The facility should take precautions to limit fugitive dust from becoming airborne.

391-3-1-.02(2)(mmm) – The generators will meet the definition of Rule (mmm)4(i) for "Emergency standby stationary engines." Each generator will operate less than 200 hrs/year, be used only for maintenance checks, readiness testing and as needed for emergency backup power in the event of utility power interruptions.

Federal Rules:

40 CFR 60 Subpart IIII – The emergency generators were constructed after July 11, 2005 and manufactured after April 1, 2006. They are subject to the requirements of NSPS Subpart IIII and meet the definition of emergency stationary ICE in 60.4219. The company must comply with the emission standards and opacity requirement under NSPS Subpart IIII by purchasing certified engines. The generators shall only use diesel fuel that has a maximum sulfur content of 15 parts per million (ppm) (0.0015% by weight) and either a minimum cetane index of 40 or maximum aromatic content of 35 volume percent. The accumulated non-emergency service (maintenance check and readiness testing)

time for the generator shall not exceed 100 hours per year. Non-resettable hour meters and records of the time and reason of operation are required.

40 CFR 63 Subpart ZZZZ (RICE MACT) - The emergency generators are constructed after June 12, 2006. Therefore, they are considered new emergency stationary reciprocating internal combustion engines (RICE) and they are subject to 40 CFR 63 Subpart ZZZZ. 40 CFR 63 Subpart ZZZZ [40 CFR 63.6590(c)] states that new emergency stationary RICE located at an area source, must meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII.

Permit Conditions

Permit Condition 2.1 limits the NOx emissions from the facility to not greater than 99.9 tpy. (NAA/NSR Avoidance)

Permit Condition 2.2 limits the hours of operation of each individual emergency generator to be less than 200 hours a year (391-3-1-.02(2)(mmm) and does not allow non-emergency, testing and maintenance operation [40 CFR 60.4211(f)(3) subsumed].

Permit Condition 2.3 limits the accumulated time for maintenance checks and readiness testing for the emergency generators.

Permit Condition 2.4 limits opacity from the emergency generators to 40%.

Permit Condition 2.5 address the applicability of NSPS Subpart A and Subpart IIII to the emergency generators.

Permit Condition 2.6 states that the emergency generators are only allowed to burn 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.

Permit Condition 2.7 addresses the applicability of NSPS Subpart A and Subpart ZZZZ to the emergency generators.

Permit Condition 3.1 incorporates Georgia Rule (n), which requires the facility to minimize fugitive dust emissions.

Permit Conditions 4.1 requires the operation and maintenance of the emergency generators according to manufacturer's specifications/instructions.

Permit Conditions 5.2 requires the installation of a non-resettable hours meter to monitor the hours of operation of the emergency generators and a system to monitor generator output load. The meter must also be able to record the type of service the engine was in as well as the hours associated with that service. This is a requirement of NSPS Subpart IIII.

Permit Condition 6.1 contains the requirements for conducting a performance test.

Permit Conditions 7.1 through 7.3 and establish detailed record keeping, emission calculation/compliance demonstration and report requirements for the annual operating time limits.

Permit Condition 7.4 requires the demonstration of compliance with NSPS Subpart IIII emission limits for the emergency generators.

Permit Condition 7.5 establishes the compliance demonstration requirements for firing distillate fuel oil in the emergency generators.

Condition 7.6 provides the equation for calculating monthly NOx emissions from the emergency generators.

Condition 7.7 requires the Permittee to calculate total NOx emissions (in tons) from the emergency generators during the last twelve consecutive calendar months, using the equation in Condition 7.6.

Toxic Impact Assessment

A toxic impact analysis was not required for this permit.

Summary & Recommendations

Therefore, I recommend issuing proposed Air Quality Permit No. 7374-217-0072-S-01-0 for the operation of emergency generators at Morning Hornet, LLC.