GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

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# NARRATIVE

TO: James Eason

FROM: Louie Gao

DATE: September 16, 2019

| | |
|---|---|
| Facility Name: | **Morning Hornet, LLC** |
| AIRS No.: | 21700072 |
| Location: | Social Circle, GA (Newton County) |
| Application #: | 27205 |
| Date of Application: | August 26, 2019 |

## Background Information

Morning Hornet, LLC was issued Permit No. 7374-217-0072-S-01-0 on December 14, 2017. They 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.

On August 22, 2018, Permit Amendment 7374-217-0072-S-01-1 was issued to allow the facility to add two [2] additional diesel-fired emergency generators under a new Group 2. In summary, the facility is currently permitted to have seventy-two [72] Group 1 engines and two [2] Group 2 engines.

## Purpose of Application

Application No. 27205 was received on August 29, 2019 and an addendum to the application received September 23, 2019 for the following proposed changes:

- Remove twenty-two [22] Group 1 Generators;
- Change the manufacturer, make, and model for fourteen [14] of the Group 1 Generators, which will now be referred to as "Group 3" generators;

The application includes a request to keep the 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 NOx emission 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.

No public advisory was needed.

**Updated Equipment List**

Facility emission units include emergency generators and fuel storage belly tanks. The facility is currently permitted to have seventy-two [72] engines permitted under Group 1 and two [2] engines under Group 2 diesel-fired emergency generators.

With the proposed changes, twenty-two [22] engines will be removed from Group 1. In addition, fourteen [14] engines from Group 1 will be replaced with generators of a different make and model. These fourteen engines will now be referred to as Group 3.

In summary, the facility will have a total of fifty-two [52] engines, thirty-six [36] with a design capacity of 28.4 MMBtu/hr known as Group 1, two [2] engines with a design capacity of 10 MMBtu/hr known as Group 2, and fourteen [14] engines with a design capacity of 29.2 MMBtu/hr known as Group 3.

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<br><br>2EG-01 through 2EG-03, 2EG-05 through 2EG-10, 2EG-12 through 2EG-14, 2EG-1R, 2EG-2R, 2EG-N1 through 2EG-N4 | 28.4 (each) | Diesel-Fired Emergency Generators | **2018** | **2019** |
| 0EG-A1 and 0EG-A2 | 10.0 (each) | Diesel- Fired Emergency Generators | **2018 (0EG-A1)**<br><br>**TBD (0EG-A2)** | **2019 (0EG-A1)**<br><br>**TBD (0EG-A2)** |
| **3EG-RA, 3EGRB, 3EG-RC, 3EG-N1 through 3EG-N4, 5EG-RA, 5EG-RB, 5EG-RC, 5EG-N1 through 5EG-N4** | **29.2** (each) | **Diesel- Fired Emergency Generators** | **2019** | **2020** |

**Emissions Summary**

NOx is the major pollutant of concern from this data center. Potential emissions of NOx are based on each generator operating at the highest emitting load, 200 hours per year [Rule (mmm)], and the manufacturer's (not-to-exceed) emission factors (NOx emissions are highest at 100% for both engine types).

The company has requested to keep the 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 for all generators. 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 potential emissions for all pollutants other than NOx are calculated using the lower of the following

- Total potential annual pollutant emissions from all generators; or
- The permitted 99.9 tpy for NOx and the ratio of the specific pollutant based on the NOx limit.

**Facility-Wide Emissions**
(in tons per year)

| Pollutant | Potential Emissions |
|---|---|
| NOx | 99.9* |
| CO | **47.16** |
| VOC | **11.59** |
| PM | **5.28** |
| $PM_{10}/PM_{2.5}$ | **5.68** |
| $SO_2$ | **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

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

## Toxic Impact Assessment

The site wide PTE for Benzene exceeds the MER established in Georgia Air Toxic guidelines. The facility submitted the detailed modeling report with Application No. 26629 using SCREEN3 which demonstrates compliance with Acceptable Ambient concentration for Benzene.

## Summary & Recommendations

Therefore, I recommend issuing proposed Air Quality Permit Amendment No. 7374-217-0072-S-01-2 for the operation of emergency generators at Morning Hornet, LLC.