GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

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NARRATIVE

TO: James Eason

FROM: Jada Levers

DATE: November 29, 2021

Facility Name:	**The Keep Campus**
AIRS No.:	097-00091
Location:	Lithia Spring, GA (Douglas County)
Application #:	28159
Date of Application:	October 21, 2021

Background Information

Permit No. 7375-097-0091-S-01-0 was issued February 9, 2018 to The Keep Campus for the construction and operation of a data center to be located at 580 Douglas Hills Road in Lithia Springs, Georgia 30168 (Douglas County). Permit No. 7375-097-0091-S-01-1 was issued on June 28, 2019 to the company for authorization to construct and operate a new diesel-fired emergency back-up generator (Source Code: CGEN) and diesel belly tank to provide back-up power to the corporate offices at 580 Douglas Hills Road, Lithia Springs 30168 (Douglas County). The company is planning to install additional new emergency generators that will provide back-up power to The Keep Campus.

The Facility is located in Douglas County which is classified as attainment/unclassifiable for all criteria pollutants. Douglas County is listed in Rule 391-3-1-.03(8)(c)14 (i) "Additional Provisions for Ozone Non-Attainment Areas" which defines a "major source" as any stationary source, or group of sources, that emits, or has the potential to emit, at least 100 tons per year of VOC or NOx.

Purpose of Application

The Keep Campus submitted Application No. 28159, dated October 21, 2021 and received on October 27, 2021, requesting the installation of additional new emergency generators (Source Code: EG-A) that will provide back-up power to the location at 580 Douglas Hills Road in Lithia Springs, GA 30168 (Douglas County). Additional information regarding the number of generators is considered confidential by the company.

The 25 tpy threshold was removed from Georgia Air Quality Rule 391-3-1-.03(10)(a)4(ii) in June 2018. The Title V major source threshold for each criteria pollutant has been increased to 100 tpy, according to Georgia Air Quality Rule 391-3-1-.03(10)(b)1(i) and 40 CFR 70.2. With the 100 tpy major source threshold in place for Douglas County, the Keep Campus maintains its synthetic minor source status.

The company submitted forms with the application to include the application in the Expedited Permitting Program. However, a preapplication meeting for the program had not been conducted. A meeting was held on November 9, 2021 and an agreement to accept the application into the Expedited Permitting Program once a completeness check had been completed. The application was accepted into the expedited program on November 24, 2021.

Public advisory expired on December 3, 2021. No comments were received.

Updated Equipment List

Emission Units			Associated Control Devices	
Source Code	**Description**	**Installation Date**	**Source Code**	**Description**
Emergency Generator Group EG-A	2,500 kW Diesel-Fired Emergency Generators and associated diesel belly tanks for back-up power to the facility	TBD	N/A	N/A

Emissions Summary

EPD calculated the post modified facility-wide potential-to-emit based on worst case not-to-exceed emissions factors (at 110% load) provided by the manufacturer, the 100 tpy NOx emissions limit requested by the company, and assuming all engines are identical. The kWh determined to reach 100 tpy NOx was used to calculate CO, VOC, PM, and SO_2 potential-to-emit. SO_2 emissions were calculated based on the fuel sulfur content of ultra-low sulfur diesel as dictated by NSPS IIII. Although exempt from permitting, the potential emissions from the diesel belly tanks are included in the Title V/NSR major source determinations for facility-wide potential emissions. HAP emissions were calculated per AP-42 Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines. The 100 tpy NOx limit ensures all pollutants remain below 100 tpy and HAP emissions remain below 10/25 tpy. Performance tests for NOx were conducted on two of the existing engines at the facility on July 7, 2021 and determined actual emission rates are approximately 60% of the new not-to-exceed emission factors at 100% load. No additional testing will be required. The permit will be updated to include the new emission factors.

Facility-Wide Emissions
(in tons per year)

Pollutant	Potential Emissions		
	Before Mod.	**After Mod.**	**Emissions Change**
PM	0.88	1.78	0.90
NOx	25*	100**	75
SO_2	0.23	0.27	0.04
CO	18.08	26.78	8.70
VOC	5.43	8.73	3.30
Max. Individual HAP	3.24E-02	0.12	0.09
Total HAP	5.06E-02	0.19	0.14

*Old 25 tpy NOx Permit Limit
**100 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)(yy) – The Facility is located in Douglas County, which is included in the former 13-county Atlanta 1-hour ozone non-attainment area and has the potential to emit NOx emissions exceeding 25 tpy. A demonstration of appropriate RACT for NOx emissions from the source must be submitted to EPD since the Facility's PTE exceeds 25 tpy. Per part 5 of this regulation, Rule (yy) is not applicable to individual equipment subject to subsections (jjj), (lll), (mmm), or (nnn). Therefore, the generator engines are not subject to Rule (yy) since they are subject to rule (mmm).

391-3-1-.02(2)(mmm) – Each generator that operates less than 200 hours per twelve consecutive months will meet the definition of Rule (mmm)4(i) for "Emergency standby stationary engines" and will operate only during routine testing, maintenance, and emergencies. Each generator that operates between 200 and 500 hours per twelve consecutive months will meet the definition of Rule (mmm)8 for engines at data centers and will additionally be limited to the hours of 10 p.m. and 4 a.m. for routine testing and maintenance during the months of May through September.

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

2. Allowable Emissions

Modified Condition

Condition 2.1 was modified to remove the 25 tpy NOx limit and replace it with the not equal to or greater than 100 tons during any consecutive twelve-month period.

7. Notification, Reporting and Record Keeping Requirements

Modified Conditions

Condition 7.6 was modified to increase the monthly NOx emissions notification threshold from 2.08 tons to 8.33 tons and to update the emission factors to calculate NOx emissions using current manufacture's not-to-exceed values.

Condition 7.7 was modified to increase the twelve-month rolling total NOx notification threshold from 25 tons to 100 tons.

Toxic Impact Assessment

EPD regulates the emission of TAPs under the provisions of Georgia Air Quality Rule 391-3-1-.02(2)(a)3(ii). The Facility conducted a toxic assessment using EPD's Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions. According to the Guideline, further analysis is required for each TAP that has a facility-wide emission rate above the MER established in Appendix A. After comparing the TAPs emission rates to the MERs, it was determined all toxins were below MERs except for Benzene which prompted further assessment.

A SCREEN3 Model was used to evaluate both the short-term and long-term concentration averages for Benzene to be compared to the Guideline's Acceptable Ambient Concentration. The modeled maximum ground level concentration of Benzene was determined to be 0.027 µg/m3 which is less than the AAC of 0.13 µg/m3. No further assessment was necessary.

Summary & Recommendations

Therefore, I recommend issuing proposed Air Quality Permit No. 7375-097-0091-S-01-2 for the installation and operation of Diesel-Fired Emergency Generators (Source Code: EG-A) at The Keep Campus.