Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Construction/Operating
Permit: F-25-027
Amazon Data Services, Inc.
4805 Aero Parkway
Florence, KY 41042
June 17, 2025
Stacie Daniels, P.E., Reviewer

SOURCE ID:	21-015-00271
AGENCY INTEREST:	178765
ACTIVITY:	APE20250003

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3571, Electronic Computers

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Boone
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☒ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☒ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
Amazon Data Services, Inc. consists of a server rack assembly and testing operation, which has no air emissions, and fifteen 2.5 MW emergency generators. The server racks are distributed to data centers. Amazon refers to the facility as CVG-200 and CVG-300 or CVG200/300, as there are two locations on the same property in the same building.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-25-027 Activity: APE20250003

Application Received: May 28, 2025 Application Complete Date(s): June 17, 2025

Permit Action: ☒ Initial ☐ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☒Yes ☐No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☐Yes ☒No

Description of Action:
The facility had previously been permitted as a minor source under 401 KAR 52:040 with seven 2.5 MW diesel-fired emergency generators. The permittee seeks to construct an additional eight emergency generators identical to the first seven, subject to regulations under 401 KAR 52:030, 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ.

F-25-027 Emission Summary		
Pollutant	**2024 Actual (tpy)**	**PTE F-25-027 (tpy)**
CO	0.17	22.83
NOx	1.39	191.67*
PT	0.01	1.50
PM_{10}	0.01	1.50
$PM_{2.5}$	0.01	1.50
SO_2	0.00	0.14
VOC	0.03	4.21
Lead	0.00	0.00
Greenhouse Gases (GHGs)		
Carbon Dioxide	104.51	14,685
Methane	0.00	0.60
Nitrous Oxide	0.00	0.12
CO_2 Equivalent (CO_2e)	104.85	14,733
Hazardous Air Pollutants (HAPs)		
Combined HAPs:	0.00	0.14

*Limited to 90 tpy to preclude 401 KAR 52:020, Title V permits

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Units 01-15 Emergency Generator Engines				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
NO_x + NMHC	6.4 g/kW-hr	40 CFR 60.4205(b), referencing 40 CFR 60.4202(b)(2) referencing 40 CFR 1039, Appendix I	NO_x: 291.6 lb/Mgal VOC: 6.4 lb/Mgal (Manufacturer)	Certified Engine
CO	3.5 g/kW-hr		34.7 lb/Mgal (Manufacturer)	
PM	0.20 g/kW-hr		2.3 lb/Mgal (Manufacturer)	

Emission Unit	Equipment	Fuel	Maximum Fuel Input (gal/hr)	Rated Capacity (HP)	Manufacture Date	Installation Date
01	Caterpillar 3516C	Diesel	175.3	3,634	7/2022	Q2 2023
02			175.3	3,634	7/2022	Q2 2023
03			175.3	3,634	7/2022	Q2 2023
04			175.3	3,634	10/2022	Q22023
05			175.3	3,634	9/2023	Q1 2024
06			175.3	3,634	9/2023	Q1 2024
07			175.3	3,634	10/2022	Q3 2023
08			175.3	3,634	10/2022	Proposed 2025
09			175.3	3,634	2024	Proposed 2025
10			175.3	3,634		
11			175.3	3,634		
12			175.3	3,634		
13			175.3	3,634		
14			175.3	3,634		
15			175.3	3,634		

2023 Certificate Number: PCPXL78.1NZS-009; **Engine Family:** PCPXL78.1NZS
2024 Certificate Number: RCPXL78.1NZS-030; **Engine Family:** RCPXL78.1NZS

Applicable Regulations:
401 KAR 60:005, Section 2(2)(dddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8 (**Subpart IIII**), *Standards of Performance for Stationary Compression Ignition* (CI) *Internal Combustion Engines* (ICE), applicable to owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines.
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (**Subpart ZZZZ**), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* (RICE), applicable to stationary RICE at a major or area source of HAP emissions. The engine shall meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII.

Emission Units 01-15 Emergency Generator Engines

Comments:
The permittee shall use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel.

The permittee shall operate and maintain the engines according to the manufacturer's emission-related written instructions, change only those emission-related settings that are permitted by the manufacturer, and meet the requirements of 40 CFR part 1068, as they apply.

There is no time limit on the use of the engines in emergency situations.

The permittee may operate the engines for maintenance checks and readiness testing for a maximum of 100 hours per calendar year; The engine may be operated for up to 50 hours per calendar year in non-emergency situations (counted as part of the 100 hours for maintenance and testing).

The permittee shall install a non-resettable hour meter to monitor and maintain records of each engine's hours of operation in emergency and non-emergency service on a monthly basis. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.

The permittee shall monitor and maintain records of each engine's fuel usage (in gallons) on a monthly basis.

The emission factors from the manufacturer are provided in g/HP-hr and converted using the following equation:

$$EF\left(\frac{lb}{Mgal}\right) = \frac{EF\left(\frac{g}{HP-hr}\right) \times 3{,}634\ HP}{453.6\frac{g}{lb} \times 0.1753\frac{Mgal}{hr}}$$

The SO_2 emission factor is from AP-42, Table 3.4-1. Greenhouse gas emission factors (CO_2, CH_4, and N_2O) are from Tables C-1 and C-2 to 40 CFR 98, Subpart C. All HAP emission factors are from AP-42, Tables 3.4-3 and 3.4-4 and converted using a higher heating value of 137,000 Btu/gal.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

N/A

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of NOx emissions	401 KAR 52:030, *Federally-enforceable permits for nonmajor sources*	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 60:005, Section 2(2)(dddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8 (**Subpart IIII**), *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	EUs 01-15
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (**Subpart ZZZZ**), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	EUs 01-15

Table C – Summary of Precluded Regulations:

N/A

Table D - Summary of Non Applicable Regulations:

N/A

Air Toxic Analysis

N/A

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
S-23-061	Initial	APE20230001	8/16/2023	8/25/2023	Initial Construction Permit	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
AP-42 – Compilation of Air Pollution Emission Factors from Stationary Sources
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CFR – Code of Federal Regulations
CO – Carbon Monoxide
CVG – Cincinnati & Northern KY International Airport
Division – Kentucky Division for Air Quality
EF – Emission Factor
ESP – Electrostatic Precipitator
EU – Emission Unit
g – Gram(s)
gal – Gallons
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
HP – HorsePower
hr – Hour(s)
KAR – Kentucky Administrative Regulations
kW – Kilowatts
KY – Kentucky
lb – Pound
Mgal – 1,000 Gallons
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
MW – MegaWatts
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NMHC – Non-Methane HydroCarbons
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
rpm – Rotations per minute
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
tpy – Tons Per Year
VOC – Volatile Organic Compounds