MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

FINAL DETERMINATION CONCERNING A PERMIT-TO-CONSTRUCT APPLICATION SUBMITTED BY AMAZON DATA SERVICES, INC. FOR THEIR PROPOSED FREDERICK, MARYLAND DATA CENTER CAMPUS

I. INTRODUCTION

The Maryland Department of the Environment, Air and Radiation Administration (ARA) received a permit-to-construct application from Amazon Data Services, Inc. on October 29, 2024 for their proposed data center facility including the installation of the following air pollution emitting equipment:

(1) Ninety-two (92) emergency generators, each equipped with a diesel fired engine rated at 2,750-kilowatts, and each controlled by a selective catalytic reduction (SCR) system and a catalyzed diesel particulate filter;

(2) Six (6) emergency generators, each equipped with a diesel fired engine rated at 750-kilowatts; and

(3) One (1) emergency generator, equipped with a diesel fired engine rated at 250-kilowatts.

The data center facility will be located at 3250 Digital Drive in Frederick, Maryland 21703 in Frederick County.

On Apri, 24, 2025, an informational meeting was held at Carroll Manor Elementary School located at 5624 Adamstown Road, Adamstown, Maryland 21710 to provide interested parties opportunities to discuss with the company and the Department the permit application and the proposed project.

After reviewing the application and other pertinent information, the Department made a tentative determination to issue a permit-to-construct that would authorize construction of the emergency generators as proposed in the company's applications. A draft permit with draft conditions was made available for public review on the Department's website.

On December 8, 2025, a public meeting was held at Carroll Manor Elementary School located at 5624 Adamstown Road, Adamstown, Maryland 21710 to provide interested parties an opportunity to comment on the Department's tentative determination and draft permit conditions.

II. COMMENTS RECEIVED AND THE DEPARTMENT'S RESPONSE

The public comment period on the application expired on December 19, 2025. The comments and questions received during this process and the Department's responses are attached.

III. DEPARTMENT'S FINAL DETERMINATION

The Department has reviewed the application and the comments received and has determined that the proposed project will not cause violations of any applicable air pollution control regulations. The Department has made a final determination to issue the permit-to-construct, effective March 25, 2026. The applicant and the public have a right to appeal the Department's final decision in accordance with Maryland Rules of Civil Procedure 7-401 through 7-403.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION
RESPONSE TO COMMENTS
FOR
AMAZON DATA SERVICES, INC.
FREDERICK, MD DATA CENTER CAMPUS
3250 DIGITAL DRIVE
FREDERICK, MARYLAND 21703

Meeting Date: December 8, 2025
Carroll Manor Elementary School
5624 Adamstown Road
Adamstown MD 21710

Purpose of the Meeting:

The purpose of the public meeting was to receive comment on the Maryland Department of the Environment's draft air quality permit to construct for a proposed data center facility including the installation of the following air pollution emitting equipment:

(1) Ninety-two (92) emergency generators, each equipped with a diesel fired engine rated at 2,750-kilowatts, and each controlled by a selective catalytic reduction (SCR) system and a catalyzed diesel particulate filter;

(2) Six (6) emergency generators, each equipped with a diesel fired engine rated at 750-kilowatts; and

(3) One (1) emergency generator, equipped with a diesel fired engine rated at 250-kilowatts.

The data center facility will be located at 3250 Digital Drive in Frederick, Maryland 21703 in Frederick County.

Attendance:

Approximately 100 members of the public, a representative for State Delegate April Miller, and Steve McKay and Mason Carter from the Frederick County Council attended the meeting. Shannon Heafey of the Air and Radiation Administration (ARA) of the Maryland Department of the Environment (MDE or the Department) presided as the meeting moderator. Suna Yi Sariscak presented the Department's statement regarding the draft permit. Amazon Data Services, Inc. (Amazon) was represented by Rob Corradi. Brianna Fleming from For the Record, Inc. served as the meeting's court reporter. The meeting was recorded and posted to MDE's YouTube channel.

Comment Period:
The comment period was open from November 18, 2025 through December 19, 2025. Comments were received from the public both at the meeting and in writing. The public meeting transcript and written comments received are enclosed with this document.

Comments Index:

1. Permit Application Review and Technical Analysis
2. Definition of Emergency Operations
3. Emergency Generator Specifications
4. Synthetic Minor Limitations
5. Air Quality Modeling Analysis Questions
6. Continuous Compliance and Enforcement
7. Common Control and Single Source Consideration
8. Cumulative Impact
9. Air Monitoring
10. Health Concerns and Environmental Justice
11. Climate Change Concerns
12. Consideration of Cleaner Alternatives
13. Critical Infrastructure Act
14. Construction, Dust, and Runoff Issues
15. Water Supply Concerns
16. Fuel Storage and Use
17. Cross-State Pollution
18. Noise, Light, Vibration, Wildlife, Agriculture Concerns
19. Generator Testing Schedule
20. Site Location and Proximity to Carroll Manor Elementary School
21. Emergency Situations and Safety Issues
22. Energy Concerns, Economic Impact, and Data Center Study

Comments received for the indexed category and their associated responses are provided below.

1. Permit Application Review and Technical Analysis

"…how long do they operate typically for testing purposes…from my research is that on a weekly basis each generator would be operated for about five to 10 minutes…then on either a monthly or quarterly…basis they would be operating at load for about a half an hour…then annually perhaps a higher load test regimen… the primary anti-pollution device, the SCR, takes about 15 to 20 minutes to get up to operating temperature before it's actually abating those diesel pollutants…most of the operating time during these tests would be under effectively Tier 2 pollution Levels… when you do your analysis, are you going to be analyzing that from that perspective, that kind of an operating curve versus pollutant abatement, or just the end state of Tier 4 compliance…

"…how will the facility ensure emissions-control systems (SCR & DPF) are functioning properly during every test…"

"…place strict hourly or fuel-based operating limits per generator, not just site-wide caps…"

"…strengthen the permit by requiring: more frequent stack testing; continuous emissions monitoring for NOx; installation of local air monitors for public access; evaluation of cleaner energy alternatives to diesel…"

"…the draft permit does not reconcile why Amazon requires such elevated fuel and runtime flexibility compared to Aligned, nor does it explain how this disparity is consistent with a synthetic-minor designation…"

"…a full campus outage operating all engines for even 24 hours would emit multiple tons of NOx in a single day…a multi-day emergency could rapidly exhaust the annual cap…the permit contains no enforceable mechanism preventing exceedances during such events…"

"…the permit…allows Amazon to petition for increased hours without mandatory public notice or comment, creating a pathway for post-permit emissions expansion…"

"…the permit…relies on SCR and DPF controls without continuous NOx monitoring, requires testing on only a subset of engines, and lacks mandatory shutdown or derating requirements when controls malfunction or degrade…"

"…[include] strict emergency-use limits ties to realistic outage data, prohibition on waiver-based expansion without public process, continuous NOx monitoring, explicit $PM_{2.5}$ and HAP caps, and enforceable control-failure provisions…"

"…MDE must require Continuous Emission Monitoring (CEM)…"

"…if retrofits are used, you must mandate a Continuous Parametric Monitoring System (CPMS) to log catalyst temperature and back-pressure every minute…"

"…are emergency standards less than regular standards…"

"…need clear information on testing plan…frequency, duration, number in 'stack' testing, when (during what hours), record keeping (who), transparency, reporting (2x/yr), permit renewal (5 yr)…"

"…are there any regulations that would stop Amazon from starting up on full generator power and running perpetually until they have adequate power…"

MDE Response:
Amazon's proposed data center campus encompasses four (4) pod hall buildings (BWI150, BWI151, BWI152, and BWI153), a security building, and a water building. The water building is used to treat incoming cooling water to be used by the data center campus. The data center campus includes the installation of a total of ninety-nine (99) emergency generators, each equipped with a diesel fuel-fired engine.

The Department's technical analysis of the permit application included extensive review of applicable regulations and requirements, potential emissions, emissions control systems, and limits and operating conditions necessary to ensure continuous compliance.

Applicable Air Quality Regulations
The engines associated with the emergency generators are subject to State opacity requirements and federal New Source Performance Standards (NSPS). The federal NSPS require all of the engines to be EPA-certified to meet emergency engine emissions and opacity standards. These emergency emissions standards are referred to as Tier II or Tier III standards depending on the model year and size of the emergency engine.

Emergency generators, by State and federal definition, are strictly prohibited from operating as the primary power source for the data center campus. Also, emergency generators are strictly prohibited from operating for demand response in Maryland. The emergency generators may only be operated to supply back up power during emergencies where primary power is interrupted outside the control of the facility, and for up to 100 hours per calendar year total for maintenance, testing, or other non-emergency activities. Although the federal NSPS standards allow more hours of operation, due to the large number of emergency generators, additional premises-wide limits are required.

Premises-Wide Emissions Limit
The overarching premises-wide emissions limit that applies to the data center campus is 25 tons of oxides of nitrogen (NO_x) per rolling 12-month period, making Amazon a minor source. Limits on fuel usage and operating hours in addition to other operating, monitoring, testing, record keeping, and reporting conditions are necessary to demonstrate continuous compliance with the premises-wide NO_x emissions limit. These additional limits and conditions, as well as the applicable short-term emissions limits for certain pollutants required by federal NSPS regulations, are included in the air quality permit to construct.

Limiting the premises wide NO_x emissions from the Amazon data center campus to less than 25 tons per rolling 12-month period also limits the potential emissions of all other regulated criteria air pollutants - carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with a nominal diameter of 10 micrometers and smaller (PM-10), particulate matter with a nominal diameter of 2.5 micrometers and smaller (PM-2.5); and volatile organic compounds (VOC), greenhouse gases (GHG), and federal hazardous air pollutants (HAP) to less than each pollutant's applicable major source threshold.

Potential Emissions
Table 1 summarizes the potential emissions from the Amazon data center campus and the major source thresholds applicable in Frederick County for New Source Review (NSR) and federal Title V-Part 70 Operating Permit requirements.

Table 1: Potential Emissions Summary

Regulated Pollutant	Potential Emissions (tons/year)	Major NSR Threshold (tons/year)	Title V-Part 70 Major Source Threshold (tons/year)
NO_x	24	25	25
CO	12	250	100
VOC	4	25	25
SO_x	0.1	250	100
PM-10	0.8	250	100
PM-2.5	0.8	250	100
GHG (as CO_{2e})	6,641	100,000	N/A
Highest Emitted Single HAP	0.03	N/A	10
Total HAP	0.06	N/A	25

Emissions Factor Methodology
Emissions factors used to estimate potential NO_x, CO, VOC, PM-10, and PM-2.5 emissions from the data center were based on worst case emissions factors provided by the engine manufacturer. When referencing manufacturer's emissions factor literature, for each pollutant, the emissions factor that resulted in the highest emissions for each engine type across all load levels was used to calculate potential emissions. For SO_2 and HAP, emissions factors provided by the U.S. EPA for Stationary Internal Combustion Engines were used to calculate potential emissions.

In Table 1, greenhouse gases are expressed as CO_{2e} and calculated using U.S. EPA-provided emissions factors. CO_{2e} is the sum of the potential emissions of the greenhouse gas constituents (CO_2, CH_4, and N_2O) each multiplied by its respective global warming potential (i.e., 1 for CO_2, 25 for CH_4, and 298 for N_2O), per Table A-1, Title 40 of Code of Federal Regulations (CFR) Part 98, Subpart A. The potential emissions for each greenhouse gas constituent was calculated using Equation C-1 from 40 CFR Part 98, Subpart C, with the appropriate values for high heat value (HHV) and emissions factors from Table C-1 (for CO_2) and Table C-2 (for CH_4 and N_2O).

Emissions Control System
Federal NSPS regulations do not require emissions control systems for emergency generators. However, due to the stringent premises-wide emissions limit, each of the ninety-two (92) 2,750 kW generators (Caterpillar Model 3516E) will be equipped with a selective catalytic reduction (SCR) and catalyzed diesel particulate filter (cDPF) emissions control system.

SCR reduces NO_x emissions and the cDPF reduces PM-10, PM-2.5, CO, and VOC emissions from the generators. Amazon proposed multiple SCR and cDPF candidate emissions control options for the Caterpillar Model 3516E engine-generators. Worst-case, minimum control efficiencies across all candidate emission controls options, were used to estimate potential emissions.

In the SCR portion of the emissions control system, urea is injected in the presence of a catalyst which converts NO_x emissions to water vapor and nitrogen before the exhaust gases reach the atmosphere. Urea dosing begins when the catalyst bed outlet temperature reaches 572 degrees F. To ensure the system works as designed, the system must be equipped with continuous parametric monitoring systems (CPMS) to monitor the following operating parameters: NO_x concentrations after the catalyst, differential pressure across the catalyst, and catalyst bed outlet temperature.

Although there are no continuous emissions monitors (CEMS), all operating parameter data, including NO_x concentrations after the catalyst, will be recorded every 15 minutes. In addition, the date, time, operating information (duration, urea dosing, etc.) will also be recorded. If any data measured by the sensors are out of the manufacturer's suggested operating range, an alarm will sound to alert the operators to make adjustments or shut the emissions control system or the entire emergency generator operation down if necessary. Until the catalyst bed outlet temperature reaches 572 degrees F, NO_x emissions will not be controlled. Therefore, potential NO_x emissions from the data center campus are based on both controlled and uncontrolled emissions factors.

The minimum activation temperature of the cDPF portion of the emissions control system is lower than the minimum engine exhaust temperature, so the cDPF controls for emissions of PM-10, PM-2.5, CO, and VOC will be active upon operation of the engine. Therefore, the controlled emissions factors were used to calculate those emissions during all periods of operation.

Fuel Usage Limits

Using the emissions factors developed using the methodology stated above, fuel usage limits were established to ensure that potential emissions of NO_x would not exceed 25 tons in any rolling 12-month period. Instead of proposing the maximum fuel usage that would keep Amazon's NO_x emissions to just under 25 tons, Amazon proposed fuel usage limits with a 3% buffer to account for potential fuel meter accuracy issues. The Department reduced the fuel usage limits even further to include a 5% fuel meter accuracy buffer. Complying with the lower fuel usage limits will better ensure Amazon's data center campus NO_x emissions remain below 25 tons per year.

Amazon must comply with two separate fuel usage limits in the permit. One limit, 421,483 gallons per rolling 12-month period, applies to all periods where the largest generators are operated and the catalyst bed outlet temperature of the emissions control system is at least 572 degrees F, ensuring proper control of NO_x emissions. The other limit, 130,672 gallons per rolling 12-month period, applies to all periods where the generators are operating with no additional emissions control. Amazon must track all fuel consumption and times when the emissions control systems are and are not in operation. At these fuel usage limits, Amazon's emissions of NO_x will not exceed 25 tons in any rolling 12-month period.

Amazon's fuel limits are higher than the fuel limits that apply to Aligned Data Centers (MD) Propco, LLC (Aligned) data center campus due to the fact that Aligned is installing more emergency generators with more electrical output than Amazon and must have lower fuel limits to ensure NO_x emissions are below the major source threshold. Aligned is installing one-hundred and seventy-two emergency generators with a total maximum electrical output of 508 megawatts. In contrast, Amazon is installing ninety-nine emergency generators with a total maximum electrical output of 258 megawatts.

Expected Operating Hours

Although 40 CFR 60, Subpart IIII allows up to 100 hours per calendar year for testing, maintenance, and some amount of non-emergency operations, Amazon must limit hours of operation to comply with the synthetic minor premises-wide emissions limit for NO_x. Amazon has estimated that maintenance checks and readiness testing, including performance testing, will take approximately 10 hours per emergency generator per rolling 12-month period. The emergency generators will also operate an expected amount of time for emergencies. Since the premises wide emissions estimate is based on conservatively established fuel based emissions factors and strict fuel limits, the 10-hour operating limit on maintenance checks and readiness testing serves mainly as a precautionary guideline for both Amazon's operating staff and MDE inspectors to alert them to review fuel usage and emissions when the operating hour limit is approached. The 10-hour operating hour limit can be exceeded, provided premises-wide NO_x emissions and fuel usage remain below their respective limits. Amazon is limited to 25 tons of NO_x emissions per rolling 12-month period. This permit does not allow an expansion above this premises-wide limit without applying for and obtaining a new or modified permit from the Department.

Actual NO_x *Emissions from Data Centers*

In 2024, the Virginia Joint Legislative Audit and Review Commission (JLARC) published a report entitled, 'Data Centers in Virginia', on the impacts of the data center industry in the state. At the time there were approximately 150 data center sites in Virginia. Data center operators interviewed during the report preparation indicated that zero to two minor utility outages were experienced per year and that the outages lasted from one to five hours. Actual emissions for the year 2023 were seven percent of allowable emissions.

The report can be found at:

https://jlarc.virginia.gov/pdfs/reports/Rpt598.pdf

Table 2 summarizes actual emissions reported to the Virginia Department of Environmental Quality (VA DEQ) by Amazon data center campuses in Northern Virginia that are comparable in size and scope to the Amazon project in Frederick County (92 generators at 2500 kilowatts with SCR and cDPF emissions control systems, 6 generators at 750 kilowatts, and 1 generator at 250 kilowatts).

Table 2: Actual NO_x Emissions Reported from Comparable Amazon Data Center Campuses in Virginia

Amazon Data Center Virginia Registration Number	Emergency Generators Number and Size in Kilowatts Electrical Output	2024 (tons per year)	2023 (tons per year)	2022 (tons per year)
73853	8 at ≤2000 103 at 2500 6 at 3000	11.30	8.16	21.70
73860	8 at ≤2000 57 at 2500 28 at 2750 with SCR 4 at 3000	2.62	2.34	6.54
74049	28 at 2000 82 at 2500	6.16	10.50	8.12
74052	35 at ≤2000 58 at 2500	2.77	2.08	4.13
74063	27 at ≤2000 22 at 2750 with SCR 71 at 2500	13.30	3.49	2.29
74080	10 at ≤2000 88 at 2500	4.53	3.85	5.88

Although these data centers are allowed up to 100 tons of NO_x emissions per rolling 12-month period in Northern Virginia, and most of the emergency generators are not equipped with emissions control systems, actual emissions reported from 2022 through 2024 are less than Maryland's more stringent limit of 25 tons of NO_x per rolling 12-month period. Amazon's proposed data center campus in Frederick County is expected to operate in a similar manner to the Virginia facilities, giving further assurance that Amazon's data center NOx emissions will remain below 25 tons per rolling 12-month period.

Performance Testing

Amazon will be required to conduct performance testing to determine actual emissions of NO_x from all emergency generators equipped with the SCR and cDPF emissions control systems to confirm compliance. The NO_x outlet concentration, engine load and operating parameters for the emissions control system shall also be confirmed during the performance tests. Initially, approximately ⅓ of the emergency generators will be tested. Subsequent initial testing for the remaining ⅔ of the units will be specified in Amazon's required State Permit to Operate. Additional testing over the life of each emergency generator will be required, as needed, to demonstrate continuous compliance.

2. Definition of Emergency Operations

"…how many hours can an emergency standby generator operate legally…"

"…what constitutes an emergency…there needs to be a definition…"

"…what precautions/standards are in place to prevent these generators from being used full time…"

"…have any exemptions been requested…for the number of hours they can operate in these generators in a non-emergency situation…"

"…is a full loss of power the only emergency situation that they will be running the generators, or will they run the generators if the sun's not shining, or if they have a bad day…"

"…in a full loss of power situation, how many generators out of 99 have to operate…"

"…these 99 generators are supporting one building, or all the buildings, or how many buildings… if they're only supporting a single building, then it's a factor of 10 or 15 times 99 equals the total number of generators that will be running…"

MDE Response:

As stated in the response to Comment 1 above, emergency generators are strictly prohibited from operating as the primary power source for the data center campus. Also, emergency generators are strictly prohibited from operating for demand response in Maryland. The emergency generators may only be operated to supply back up power during emergencies where primary power is interrupted outside the control of the facility, and for up to 100 hours per calendar year total for maintenance, testing, or other non-emergency activities. Although the federal NSPS standards allow more hours of operation, due to the large number of emergency generators, Amazon will operate the emergency generators for maintenance, testing, and other non-emergency activities for approximately 10 hours per calendar year per emergency generator. The Department required Amazon to provide manufacturer documentation for the proposed reduced maintenance and testing schedule to ensure that Amazon operates and maintains the emergency generators in accordance with manufacturer specifications. Amazon has not requested, nor has received, any exemptions for non-emergency operations above what is allowed in their permit.

The Department estimated emissions based on conservative fuel based emissions factors and strict fuel limits for the entire premises. The permit specified the total number of generators that can be installed at the premises, but emissions limits are not based on how many of the permitted generators can operate at any one time. However, Amazon must keep detailed records of emissions, all hours of operation, operating data, the reason for operation, and the fuel consumption to maintain compliance.

To address comments related to the number of emergency generators that will be running at one time, Amazon has provided the following additional response:

The 99 emergency generators are divided across the entire project. In the event of loss of primary utility power to the campus, 91 emergency generators would be expected to operate at one time once the entire campus is operational (i.e., all four data center buildings have been constructed as part of the project, and all server rooms are occupied within each building). There are two 2.75-megawatt (MW) emergency generators per data center building (eight emergency generators total across the project) designed to provide redundancy for equipment failures. Amazon has provided a breakdown of the number of emergency generators to be installed at each data center building to MDE which has been included in the draft air quality Permit to Construct.

3. Emergency Generator Specifications

"…require Amazon to install selective catalytic reduction (SCR) technology on all of its backup generators…"

"…Tier 4 Compliant retrofit generators…carry a known 'Cold Start' risk (approx.. 15-minute delay in pollution control activation…"

"…backup generators have been made T4 compliant…giving permission to the data centers to run at prime (outside of emergency)…"

"…MDE must mandate Certified Tier 4 Final engines…"

"…will the generators be stationary…"

"…are these generators outside or in a building…"

"…federal regulations for the environmental control areas…for ships are that Tier 3 generators are standard…this is for areas within 200 nautical miles of the coastline…why is it then that the regulations for hundreds of miles from our coastline are more stringent than what is proposed for within a mile or less of residences and a school…"

MDE Response:

As stated in the response to Comment 1, the engines associated with the emergency generators are subject to federal New Source Performance Standards (NSPS). The federal NSPS require all of the engines to be EPA-certified to meet emergency engine emissions and opacity standards. Emergency emissions standards are referred to as Tier II or Tier III standards depending on the model year and size of the emergency engine. Amazon's 2,750-kilowatt and 750-kilowatt emergency generators are required to meet Tier II emergency emissions standards, and the 250-kilowatt emergency generator is required to meet Tier III emissions standards.

Tier IV, final emissions standards are required for non-emergency generators. If Amazon installed EPA-certified Tier IV, final generators, Amazon could request that those generators be allowed to operate for any reason, including primary power and other operations that are currently prohibited for emergency generators. Instead, Amazon is installing certified emergency-only generators to limit their operation. Add-on emissions controls are required to reduce NO_x emissions to below major source thresholds. For the larger generators, post-control NOx emissions are equivalent to Tier IV final emissions standards (both 0.50 g/hp-hr). However, this does not mean the generators can operate in the same manner as a non-emergency Tier IV final certified generator. That is strictly prohibited by federal NSPS regulations for new emergency generators.

As stated in the *Emissions Control System* section of the response to Comment 1 above, all emissions estimates consider "cold start" conditions where the control system's catalyst bed outlet temperature is less than 572 degrees F and factor these uncontrolled emissions into the estimated total potential emissions.

With respect to the smaller emergency generators, add-on emissions control systems for the six (6) emergency generators rated at 750-kilowatts, and the one (1) emergency generator rated at 250-kilowatts are not required to meet federal NSPS emissions standards. These emergency generators are much smaller in quantity and capacity, and are not a significant contributor to the overall premises wide emissions from the facility.

4. Synthetic Minor Limitations

"…Amazon proposes a facility-wide cap of 24.3 tons per year of NOx…the application states that this cap includes only a 3% error margin…a slight underestimation of fuel usage or increased generator operation during grid instability could easily push actual emissions over the regulatory limit…"

"…reject the synthetic minor classification and require full NNSR review…"

"…the proposed installation…has an unrestricted potential-to-emit that clearly exceeds the 25 tpy NOx major-source threshold…a cap must therefore be demonstrably enforceable and achievable under all operating scenarios…"

"…this narrow margin creates a substantial risk of exceedance during extended outages, increase testing, or operational deviations…"

MDE Response:

The Amazon data center campus will be located in Frederick County, an area designated as not in attainment with the National Ambient Air Quality Standard (NAAQS) for ozone. Pollutants that contribute to the formation of ground level ozone include emissions of oxides of nitrogen (NO_x) and volatile organic compounds (VOC). Non-attainment status does not prohibit new sources of these pollutants from being built, but there are additional limits and restrictions.

The major source threshold for NO_x in Frederick County is 25 tons per year. Amazon has requested to take limits on fuel use and operation so that emissions from the site are less than the major source level for NO_x. Limiting a potential major source of air pollution through both emissions and operating permit limits are referred to as synthetic minor limits. Compliance with synthetic minor limits allows a facility to be considered a minor source with respect to air quality requirements under the Clean Air Act. Major non-attainment New Source Review (NSR) requirements do not apply to synthetic minor sources.

As stated in the *Fuel Usage Limits* section of the response to Comment 1, conservative fuel based emissions factors were developed to establish fuel usage limits that ensure that potential emissions of NO_x would not exceed 25 tons in any rolling 12-month period. The Department reduced the fuel usage limits proposed by Amazon even further to include a 5% fuel meter accuracy buffer. Complying with the lower fuel usage limits will ensure Amazon's data center campus NO_x emissions remain below 25 tons per year.

Amazon does not have an unrestricted potential to emit. Amazon is limited to no more than 25 tons of NO_x emissions per rolling 12-month period. Amazon's operational limits are designed to include both maintenance and testing of the generators and an expected amount of emergency operation. Between 2019 and 2024, there was only one outage on the No. 231 transmission line that would supply primary power to Amazon's data center campus, and it lasted less than one minute. Amazon's emissions estimates include a buffer of several hours per emergency generator that would be used for emergency operation.

While longer-term emergency situations may happen, they would be rare and cannot be predicted. Federal guidelines suggest unpredictable, non-quantifiable emergency situations should not count toward an emergency generator's potential to emit when determining applicable air quality requirements. There are provisions in the permit requiring Amazon to maintain records on a rolling monthly basis and to notify the Department if premises wide emissions or fuel usage exceed the applicable limits. The Department will take enforcement action if conditions indicate a violation has occurred.

5. Air Quality Modeling Analysis Questions

"…what are the predicted concentrations of PM2.5, NO2, and diesel hazardous air pollutants (e.g., benzene, formaldehyde, acrolein) at the Carroll Manor Elementary School property line…"

"…Frederick County is not in attainment of standards…what does this mean…"

"…Did MDE require air dispersion modeling that includes 'startup emissions,' which are significantly higher during the first minutes of generator operation…"

"…how did the modeling account for meteorological conditions common in Adamstown (temperature inversions, low-wind days, valley effects…"

"…has the modeling been independently reviewed by an external expert, and will MDE make that review publicly available…"

"…did the air modeling evaluate cumulative impacts of all 99 generators operating during an extended power outage, or only single-unit operation for testing…"

"…what is the expected air quality impact if multiple generators must run simultaneously during emergencies…"

"…will MDE require additional modeling or safeguards for multi-unit operation, given that the site is adjacent to an elementary school…"

"…MDE needs to model…the site loses power for three days the are very hot, humid, and no wind…what are the total emissions from all of the generators running simultaneously for three days…what are the PM2.5, NOX, SOX and VOC levels in the air at 1000, 2500 and 5000 feet…"

"…diesel engines release a massive spike of NO2 during 'Cold Start' (the first 15 minutes)…MDE must verify via AERMOD modeling that simultaneous testing of generators will not violate the 1-Hour NO2 safety limit at the residential property line (500 ft) or the School…"

"…there are no regulations on safe levels of UFPs [ultrafine particles] in the air…"
monitoring
"…have there been any updates to our non-attainment status to add contaminants other than eight-hour ozone…"

"…proper monitoring and update of non-attainment for other than that should have been done before any approval…"

"…has there been any analysis done on how this is going to affect the other, I think it's at least 20 K through 12 schools within a 10 mile radius…"

"…Frederick County will never achieve attainment status for any pollutant because our geography and atmospheric/temperature inversion…"

MDE Response:
State and federal regulations established under the Clean Air Act do not require air quality modeling as part of the technical analysis of an air quality permit to construct application for a minor or synthetic minor source of NO_x, CO, VOC, SO_x, PM-10, PM-2.5, GHG, or federal HAP emissions. Fuel burning equipment, including diesel emergency generators, are also not subject to State toxic air pollutant regulations that would require air quality modeling to predict concentrations of toxic air pollutants from the facility. Instead, the Department used conservative, worst-case emissions factors to establish fuel limits that ensure that premises wide potential emissions remain below all applicable air pollutant major source thresholds. Table 1 in the response to Comment 1 above shows the potential emissions of NO_x, CO, VOC, SO_x, PM-10, PM-2.5, GHG, or federal HAP emissions based on this conservative methodology.

With regard to National Ambient Air Quality Standards (NAAQS), once the U.S. EPA sets a standard for a pollutant, it designates individual counties and multi-county metropolitan areas of a state as nonattainment, attainment, or maintenance for the standard. Nonattainment means that the county and/or area is not meeting the standard, while attainment means that it is. Maintenance means that it has only more recently begun to meet the standard and must continue to provide EPA with information showing that it is maintaining the standard, before the area can qualify for redesignation as attainment.

A nonattainment designation can be classified based on the level above the NAAQS as extreme, severe, serious, moderate, and marginal. For each area that is nonattainment for one standard, state and local air quality management agencies must develop a specific plan to attain the standard. The plan is a State Implementation Plan (SIP) and includes many kinds of information, such as regulations for reducing emissions of the pollutant and the levels of emissions from various sources. The Department's Air Quality Planning Program develops and maintains Maryland's SIP, emissions inventories, and related reports to document how Maryland will attain and maintain the National Ambient Air Quality Standards, and prevent significant deterioration of air quality in areas cleaner than the standards.

Frederick County is currently in attainment with the NAAQS for sulfur dioxide, particulate matter (as PM-10 and as PM2.5), carbon monoxide, nitrogen dioxide, and lead. In the 1990s, Frederick County was designated as a severe nonattainment area for ground level ozone. In a severe nonattainment area for ozone, the U.S. EPA sets the major source threshold for NO_x emissions, a precursor pollutant to the formation of ozone, to 25 tons per year.

Application of this low threshold along with other limits and regulations for control of both VOC and NO_x emissions identified in the Department's SIP has resulted in an overall improvement in air quality throughout Maryland. As such, Frederick County is now designated as a moderate nonattainment area for ground level ozone. Although the classification has been upgraded from severe to moderate, anti-backsliding provisions prohibit Maryland from relaxing their existing emissions control measures. In other words, while the major source threshold for NO_x emissions in a new moderate, ozone nonattainment area is 100 tons per year, Frederick County's major source threshold remains at the severe level of 25 tons per year. This ensures that Maryland continues to make reasonable progress toward achieving attainment with the NAAQS.

With regard to the 1-hour NAAQS for NO_2, Frederick County is designated as in attainment with the standard. The 1-hour standard is 100 parts per billion (ppb). It is based on the 3-year average of the 98th percentile of the yearly distribution of 1-hour daily maximum concentrations from Maryland's network of U.S EPA-approved air quality monitors that are placed throughout the state. MDE's Air Quality Planning Program submitted three years of statewide air monitoring data, emissions inventory information from stationary and mobile sources, and modeling results to the U.S. EPA to receive this attainment designation.

Due to the intermittent use of emergency generators for data centers, short-term NO_2 impacts are difficult to assess. Infrequent concentration spikes of NO_2 above 100 ppb would not constitute a violation of the NAAQS or alter Maryland's attainment designation.

As part of Virginia's ambient air quality monitoring network, VA DEQ maintains an air quality monitoring station at Broad Run High School in Ashburn, Loudoun County, Virginia (Site ID 38-I). This station is situated near what is currently referred to as "data center alley" and measures the following pollutants: ozone, NO_2, PM-10, and PM-2.5. According to the VA DEQ's 2024 Ambient Air Monitoring Data Report, measured concentrations reported from this site from 2022 through 2024 show compliance with applicable NAAQS for ozone, NO_2, PM-10, and PM-2.5 and show that the values are comparable and follow the same trends as the data measured at other monitoring stations throughout the state. There is no current indication that air emissions from data centers, specifically, are influencing or impacting local air quality more than other sources of air pollution in the same area.

6. Continuous Compliance and Enforcement

"…what enforcement mechanisms will apply if real-world emissions exceed the modeled predications or permit limits…"

"…will MDE require periodic third-party emissions verification to confirm that SCR and DPF systems maintain their effectiveness over time…"

"…what mitigation measures will be implemented if actual monitoring reveals higher pollution levels…"

"…will MDE Air have sufficient staff to inspect when data centers run in demand response…how will you know…what is the penalty…"

"…how will MDE prove the data centers' self-reporting numbers are accurate…"

"…who will enforce non-compliance…"

"…who will oversee that emergency generators will only be used for short emergencies…"

"…who manages, funds and monitors corrective actions in a timely manner…"

"…the county CDI ordinances have no enforcement, no independent monitoring, and no complaint hotline…

"…who monitors for compliance and at what frequency for the pollution standards…pollution is air pollution, noise pollution, vibrations…all of those things are considered pollution under the Code of Maryland regulations…

"…what are the penalties that they're going to impose on these guys, and are the penalties going to be put back into our neighborhood, not into the general fund for everybody in Frederick…"

"…what penalties will be assessed to Amazon if they don't meet the requirements…"

"…because filtering is an add-on, not factory installed, who's checking efficacy…how often…"

"…when we have an urgent issue with AIR, when are we going to hear from you…"

"…state should provide ongoing reports on water and air quality..."

MDE Response:
Although air quality permits contain conditions requiring companies to conduct monitoring, testing, reporting and record keeping, these are not the only methods by which MDE determines compliance. The Department conducts announced and unannounced inspections to ensure that a company is operating in compliance with air pollution control requirements. These inspections generally include visible emissions observations and odor surveys. Records and logbooks on source operations are also reviewed.

Amazon will be required to conduct third-party performance testing to determine actual emissions of NO_x from all emergency generators equipped with the SCR and cDPF emissions control systems to confirm compliance. Prior to conducting testing, Amazon must submit a test protocol to the Department for review and approval to ensure that appropriate test methods and test conditions will be followed. Department staff are typically present during the testing process to observe the operations. Additional testing over the life of each emergency generator will be required, as needed, to demonstrate continuous compliance. Per Code of Maryland Regulations (COMAR) 26.11.01.04, MDE reserves the right to require Amazon to conduct air quality testing at any time to demonstrate compliance with applicable air pollution control requirements.

Following initial performance testing, Amazon will be required to apply for and obtain an initial air quality State Permit to Operate from the Department. The State Permit to Operate imposes record keeping, reporting, testing, and monitoring requirements on the facility to ensure that it operates as the facility envisioned in its application to construct the plant and in the manner that the Department envisioned when approving that construction. Prior to renewing a State Permit to Operate, MDE verifies that the plant is operating in compliance with all applicable air quality requirements. As a State Permit to Operate source, Amazon will be required to submit annual certifications of emissions and report any conditions that result in excess emissions to MDE in accordance with the COMAR 26.11.01.07 and the reporting requirements of their permit.

Amazon is required to report within 15 days following the month of the occurrence any instance where premises-wide NO_x emissions and/or fuel consumption exceed the limits specified in the permit. When a violation of any provision of a permit or a direct regulatory requirement occurs, MDE has adequate legal authority to compel a facility to take the necessary measures to address the violation and bring the operation back into compliance. The type of action taken is a function of the severity and type of violation and several other factors, such as the willfulness of the violation and the degree of harm to public health or the environment. Enforcement actions can range from the issuance of a notice of violation to the imposition of civil and criminal penalties. MDE possesses the necessary legal tools to require the Permittee to operate properly.

There is no standard enforcement pathway. Each case is shaped by the extent and duration of the violations, the willfulness of the owners or operators allowing them to occur, the harm violations may cause to public health or the environment and several other factors. If Amazon exceeds any limits imposed by an air quality permit issued by MDE, Amazon would be subject to enforcement action and potential penalties that are dependent on the factors mentioned. MDE has administrative, civil and criminal penalty authorities under the Environment Article, each having separate upper financial limits. Financial penalty authorities aside, MDE has adequate legal authority to order Amazon to remedy a noncompliant situation, including requiring the company to cease operation if conditions so warrant. Any order issued by the Department is subject to appeal.

At this time, the Department uses the Open MDE portal to communicate citizen complaints, compliance inspections, compliance violations, enforcement actions and expired or extended permits to the general public. You can find the Open MDE portal online at this link:

https://mde.maryland.gov/Pages/Open-MDE.aspx

All enforcement actions are referred to the Office of Attorney General (OAG). If there are multiple unrelated violations, this fact would be brought to the attention of the OAG. to be used as appropriate during the course of enforcement deliberations.

Air pollution related complaints can also be reported by calling the Department's Air Quality Compliance Program at (410) 537-3215.

Enforcement of large-scale data centers with hundreds of emergency generators does create compliance staffing challenges. MDE's Air Quality Compliance Program consults with their counterparts in other states and with the U.S. EPA in on-going workgroups and workshops to determine best practices to address these challenges to ensure continuous compliance.

7. Common Control and Single Source Consideration

"…MDE's analysis of the Bauxite I project's…should therefore be conducted in combination with this new Bauxite II project, as the emissions are under common control and will undoubtedly exceed the synthetic minor source regulatory limit…"

"…Since the Bauxite projects are under common control, on the same Quantum Frederick hyperscale data center campus, the Bauxite I Permit to Construct should be re-evaluated in conjunction with Bauxite II and reclassified as a Major Source…

"…MDE's own prior internal deliberations regarding data center clustering on the Quantum Frederick campus recognized that parcel subdivision and buffering along do not resolve aggregation concerns…underscoring the need for a transparent and defensible source determination…"

MDE Response:

Additional applications for data centers in the same area will be evaluated under the federal rules governing the NSR and Title V permitting programs, of which the Department is the delegated authority to implement these programs in Maryland. The primary focus of our evaluation will be to determine whether or not any subsequent data center will constitute a separate air pollution source for NSR purposes. In doing this, MDE will consider if the subsequent source and the source currently under review: (1) belong to the same industrial grouping (2-digit Standard Industrial Classification code); (2) are located on one or more contiguous or adjacent properties; and (3) are under the control of the same person (or persons under common control). If one or more of the three criteria is not met, the subsequent source is considered a separate emission source. Accordingly, emissions from the subsequent and the source currently under review would not be aggregated.

Should a data center campus meet criteria (1) and (3) above, criteria (2) above would be the determining factor for whether each data center campus would be considered a single stationary source. In this regard, the Department will consider whether each campus is located on separate parcels that are individually leased from the parcel owner and whether each campus is separated by more than 1,320 feet (1/4 mile) from each other and any intervening parcels of land between data center campuses are not leased, owned, or controlled by the same entity, and each campus operates independently from each other with no shared air pollution emitting equipment. This determination is consistent with guidance provided by the U.S. EPA and with other data center campus single source determinations made by other states.

8. Cumulative Impact

"…MDE has not adopted regulations that authorize or require a cumulative impact analysis for emissions from multiple diesel generators…of many more diesel generators that may be operating at the same time for testing, maintenance, or other non-emergency reasons at other sites on the same campus…seems to us to be a major flaw in the permitting process for these diesel generators…if the grid goes down and there are hundreds or perhaps even thousands of diesel generators operating simultaneously under emergency conditions, maybe at full load for some indeterminate period of time, the emissions impacts could be really significant…

"…we would like to see MDE develop regulations that would require a cumulative impact analysis that would factor into the permitting decisions for these diesel generators, especially given the large number of generators…looking at the full build-out of this campus in the next five to ten years…"

"…for each of these applications, are you evaluating the marginal incremental impact of each new application atop what you've previously looked at…when we're two or three applications down the road from now and there's hundreds of generators that you've previously evaluated, are you looking at the combined pollutant impact of all of those, or are you just looking in isolation at the single application before you…"

"…there is no estimation of the effects of pollution, noise, and vibration resulting from all these diesel generators at the Eastalco site running for an emergency…"

"…MDE has the discretion and responsibility to evaluate whether aggregate NOx emissions across the campus or region might exceed major source thresholds or contribute to air quality violations, particularly given Frederick County's nonattainment status for ozone…"

"…delay approval pending a cumulative emissions impact study across the Quantum/Rowan campus…"

"…consider the cumulative impacts that Amazon's 99 diesel generators will have on the Frederick area, which already has at least 19 proposed or constructed data centers…"

"…how will MDE evaluate the cumulative effects of generator emissions combined with construction dust, backup truck traffic, and other sources already present in the area…"

"…we have Box Site 1 for Amazon…but under construction is Box Site 2, and right next to it is Box Site 3…are these facilities going to be allowed to salami slice the regulations like that, or when they come in for an air quality permit, will you put a hold on Box Site 1 and require that the entire collection of facilities get a permit, which at that point is a major source, and there are other rules in effect…"

"…the estimated 1,000 diesel generators at the current site (overlay expansion could add another 1,000) will exacerbate Frederick County's air quality non-attainment status and directly affect public health…"

"…a legislative report found that in a 'worst-case scenario,' data center generators in Northern Virginia could release 9,000 tons of Nitrogen Oxides annually – roughly the equivalent of half of all annual emissions from all other sources in the region combined…"

MDE Response:
MDE's regulatory focus in evaluating an application for a permit for the construction of an air pollution source is limited to air quality impacts associated with the equipment presented in the application. At this time, aggregate emissions from unrelated air pollution sources in the same area are not considered when evaluating an air quality permit application subject to State and federal air pollution control requirements under the Clean Air Act. In this regard, the Amazon data center currently under review is considered a minor air pollution source under the Clean Air Act.

For additional applications for data centers in the same area, MDE will evaluate whether the additional project should be considered part of this original project using the guidelines specified under the Clean Air Act. If so, MDE would require the applicant to comply with major source air quality requirements for the total emissions from both projects This would involve the need to secure emissions offsets, the use of lowest emitting pollution controls and, depending on the pollutants involved, ambient air quality impacts. This evaluation approach is not unique to data centers, it is standard throughout Maryland and applies to any category of sources.

In terms of actual emissions, we can draw from the published 2024 Virginia JLARC report cited in response to Comment 1 above, which states that "data center backup generators are rarely run for prolonged periods, and emissions are unlikely to adversely affect regional air quality." In Maryland, data center emissions from diesel generators are currently a small contributor to regional air pollution. Based on 2020 National Emissions Inventory data, Frederick County's total NO_x emissions were 3,297 tons per year. The cumulative potential NO_x emissions from the two large-scale data centers for which MDE has received permit applications (50 tons) to be located in Frederick County would represent less than 1.5 percent of the county's 2020 total.

9. Air Monitoring
"…has any air monitoring of the quantum site been done recently…"

"…will the facility be required to install continuous or near-real-time air quality monitoring at the school and residential property lines…"

"…will this air-monitoring data be publicly accessible…"

"…it would be best if MDE required monitors to verify and report emission levels to the public…"

"…real-time data from all fenceline sensors much be accessible via a publicly available website updated every 60 seconds…"

"…a fund must be established to provide HEPA/Carbon air scrubbers for homes within the immediate 500-1000 ft radius…"

"…why isn't MDE collecting and recording real-time data…"

"…Adamstown has no air-quality monitoring…we don't know if we are nonattainment for other contaminants…"

"…will EPA be testing Adamstown's air quality on a regular basis to evaluate the air toxins from these generators…"

"…the applicant shall install and maintain a Reference-Grade Air Quality Monitoring System…capable of real-time detection of Nitrogen Dioxide…and Particulate Matter…"

"…Amazon must install industrial-grade Air Quality Monitors (NOx and PM2.5) at…the property boundary closes to the residents (500 ft)…the property boundary facing Carroll Manor Elementary…must transmit real-time data to a dashboard accessible by the Carroll Manor Fire Company (Station 14)…"

MDE Response:
On a local level, the Frederick County Division of Energy and Environment has introduced a network of air quality monitors throughout Frederick County where real time data can be viewed to examine trends and better understand the air quality of specific areas in Frederick County. This network includes multiple sites in the Adamstown area.

Ambient air quality is measured to determine Maryland's compliance with federal national ambient air quality standards. To do that, MDE operates a statewide sampling network to monitor the air that the general population is breathing. Ambient air monitoring is not designed to assess the influence a single or a collection of local sources may have on local air quality, as measurements obtained from the ambient monitoring network provide the basis for making determinations on whether broad areas of the state meet or fail to meet federal NAAQS.

MDE is confident that the existing air monitoring network adequately characterizes the air quality throughout Maryland. Following the federal network design guidance and constraints closely results in monitoring a thorough cross-section of the state including a mix of:

•high pollution areas
•low pollution areas
•areas under the immediate influence of significant sources
•areas that make up the other site types and spatial scales as prescribed in 40 CFR 58, Appendix D

Monitors located in areas with similar population densities, similar emission source characteristics, and similar meteorological conditions should measure similar concentrations of air pollution. Therefore, it is not necessary to require Amazon to install air monitoring stations at their site as existing monitors that are part of Maryland's ambient air quality network can provide representative data.

In addition, pre-construction ambient air monitoring is not required by State or federal air quality regulations for a project of this size.

As stated in the response to Comment 5 above, a review of VA DEQ's 2024 Ambient Air Monitoring Data Report, shows there is no current indication that air emissions from data centers, specifically, are influencing or impacting local air quality more than other sources of air pollution in the same area.

With regard to fenceline or local air monitoring, Amazon has offered the following additional response:

There are currently no fence line or local air monitors at or near other data center facilities installed by Amazon or a third party. Amazon is taking operating restrictions on the emergency generators to maintain a designation as a minor source of air emissions under MDE's air quality regulations. As such, there is no requirement to install an ambient air monitor. However, MDE has their own network of ambient air monitors strategically placed throughout the state that do provide real time air quality data for the benefit of the public.

10. Health Concerns and Environmental Justice

"…concern that the diesel generators will cause harm to children…and to the residents who will be exposed every working day to monthly testing of each diesel generator…"

"…emissions from these diesel generators, including NO_2, PM2.5, and volatile organic compounds, are known contributors to asthma, cardiovascular disease cancer and premature mortality…local residents, including children at nearby Carroll Manor Elementary School, the elderly, and agricultural workers, are placed at increased risk…"

"…although Amazon submitted an Environmental Justice (EJ) Screening Report (Appendix E), it has not been publicly summarized or shared…"

"…no specific health risk assessment has been conducted or presented… a serious shortfall in a region with known vulnerabilities…"

"…require Amazon to conduct and publicly disclose a Health Risk Assessment (HRA)…"

"…mandate a summary and community review of the Environmental Justice Screening Report…"

"…The 99 diesel generators will endanger the state and locality's air quality and particularly affect children who attend the eight schools located within five miles of the Amazon BWI 150-153 data center facility…"

"…recommend that MDE conduct a more comprehensive health risk assessment, with special attention to how the proposed generators will impact local communities…"

"… a December 2024 study found that pollution from data center backup generators in Virginia could cause a total public health burden of $190 million to $260 million in surrounding states…found that Frederick County's health cost from Virginia's generators is about $4.6 million…MDE needs to model this…"

"…the World Health Organization (IARC) classifies Diesel Engine Exhaust as a Group 1 Carcinogen…"

"…the chronic, aggregated emissions…will release harmful ultrafine particulate matter…nitrogen oxides…formaldehyde near residential areas…"

"…risk to children…lung development…asthma and respiratory attacks…carcinogenic exposure…"

"…risk to the elderly…cardiovascular failure…compromised immune systems…"

"…these pollutants cause serious health issues: respiratory and cardiovascular disease…along with liver, kidney, immune and reproductive health problems…"

"…medical costs to state and residents to pollution from data centers…would like MDE to estimate the medical costs to Frederick County residents to pollution from Frederick County data centers and pollution from Loudoun County…"

"…will cost over $20 billion annually by 2030 for all the diesel generator health problems caused by data centers…"

"…we don't know what these generators, how much damage this is going to do…just like in 1990 and 1980, they didn't know secondhand smoke could do this damage…"

"…how about the Maryland Department of Health…"

"…how is poisoning children legal just because a few things are removed from the air that would hurt them…"

"…a study released on November 21, 2025…found that public health damage from data center pollution have tripled in four years…specifically identifying diesel backup generators as a primary source of dangerous particulate matter (PM 2.5) and Nitrogen Oxides (NOx)…"

"…MDE must certify that the cancer risk from Diesel Particulate Matter (DPM) at the 500-foot residential boundary is below the allowable screening level (1 in 100,000)…"

MDE Response:
MDE's review of an air quality permit to construct application considers broad health impacts rather than health impacts based on specific health conditions. Part of our permit review process considers whether a facility will meet federal air quality standards (the "NAAQS"), which are set to protect public health, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. As stated in the response to Comment 5, the impact from Amazon's proposed data center is not expected to impact Frederick's status with regard to air quality standards.

The ninety-two larger emergency generators will each be equipped with a catalyzed diesel particulate filter, as part of the overall emissions control system, to control emissions of particulate matter (PM-10 and PM-2.5). Amazon is also required to use ultra-low sulfur diesel (ULSD) fuel and has the option to burn renewable diesel, both of which reduce overall particulate matter emissions significantly from traditional diesel fuel. As such, emissions of PM-10 and PM-2.5 are both expected to be less than 1 ton per year.

Based on 2020 National Emissions Inventory data, Frederick County's total PM-10 and PM-2.5 emissions were 5,604 and 1,805 tons per year, respectively. Emissions of PM-10 and PM-2.5 from these generators are both expected to be less than 1 ton per year, or less than 0.01 percent of the county's 2020 totals for each pollutant.

For concerns regarding possible trends or clusters of specific health conditions impacting residents of Frederick County, the Frederick County Health Department publishes a comprehensive community health assessment report. The reports are updated every three years to reflect changing local public health conditions. Additional information regarding the assessment report can be obtained by contacting the following person:

Rissah Watkins, Director
Office of Planning, Assessment & Communication
301-600-6005 or rwatkins@frederickcountymd.gov.

With regard to environmental justice, Amazon provided an environmental justice (EJ) Score report for the census tract where the proposed facility will be located to meet Maryland requirements. The EJ Score, expressed as a statewide percentile, was shown to be 32 using the previous Maryland EJ Tool. Using MDE's revised MDEnviroScreen tool, the EJ Score for the census tract where the proposed source is located is now 56.6. The MDEnviroScreen report also shows that the proposed source is located in an area where at least five pollution indicators are in the 75th percentile or higher. This MDEnviroScreen score represents a combined measure of pollution and the potential vulnerability of a population to the effects of pollution.

Communities with high indicator scores, particularly those with five or more indicators at or above the 75th percentile, should have more opportunities to participate in the permit process and understand a project's potential impacts. For both the application informational meeting and the permit comment meeting for this permit application, the Department proactively engaged with Frederick County officials, community groups, and interested parties to provide advanced notice, ensuring high public engagement at both meetings.

11. Climate Change Concerns

"…the cumulative emissions of these generators…assume an average 1 MW diesel generator running…100 hours per year, then annual CO2 emissions per unit is around 123.75 metric tons…"

"…why has MDE reversed its goal of decarbonization…"

"…what is MDE's plan to protect public health and the environment by reducing greenhouse gas emissions as related to diesel generators…"

"…mandate a timeline for the facility to achieve 100% Carbon-Free Energy (CFE) use for its operational load, aligning with Maryland's state-mandated goal…"

"…they don't want us to have propane stoves but they want our children to breathe diesel…"

"…we must go to electric cars…but you're going to put diesel around our children and our elderly, and my dear friend who is COPD…"

"…we want solar energy panels because we want a zero footprint…but you want to put a diesel generator in here running at all times…"

MDE Response:

The overall premises wide limit on NO_x emissions, limits the emissions of all other pollutants from Amazon's data center campus to well below major source levels. Total potential GHG emissions (as CO_{2eq}) from Amazon's data center campus are expected to be 6,641 tons per year, less than 7% of the major source threshold of 100,000 tons per year for a new source of GHG emissions. As of 2023, statewide CO_2 emissions are over 80 million metric tons.

MDE's plan to reduce statewide greenhouse gas emissions by 60% by 2031 does not include plans to adopt regulations of any individual business of this size. Rather, MDE's plan focuses on targeting the sectors that constitute the largest share of greenhouse gas emissions and includes a variety of regulatory measures, incentive programs, and transportation related improvements to reduce emissions across several broad sectors.

Many of these measures, especially those that apply to businesses, will take the form of new regulations that drive emission reductions for an entire sector through, for example, the use of alternative fuels, clean power, zero-emission heating equipment, and the implementation of new greenhouse gas reduction standards for large buildings. The recently promulgated Building Energy Performance Standards regulation is a prime example.

Other reductions will accrue as electric vehicles, both cars and trucks, and through the offering of incentives to increase electric vehicle purchases, including school buses, and the equipment to charge them.

Programs to incentivize home electrification will provide additional reductions, along with reducing methane emissions from Maryland's landfills and natural gas infrastructure, the planting of 5 million trees and reducing vehicle miles traveled statewide.

Every new business, every new vehicle that uses fossil fuel and every new building that is constructed will add some amount of CO_2 emissions to the atmosphere. Addressing climate change does not stop new construction or purchases or new or replacement equipment, it requires such construction and purchases to meet whatever new requirements are put in place at the time construction takes place or purchases are made.

The full state plan to reduce greenhouse gas emissions can be found here.

12. Consideration of Cleaner Alternatives

"…Terra Energy intends to install emergency battery backup power instead of dirty diesel generators…why not Amazon…batteries are silent and non-polluting…require no hazardous fuel or storage...

"…require battery backup as they become practical and proven reliable to phase out diesel generators…"

"…Battery backups are a better alternative that would prevent Amazon from experiencing any interruption in service without significant impacts to public health and air quality…"

"…Because Amazon does not intend to run its generators, apart from a short period of time while service is interrupted, battery backups combined with renewable energy would be a better, cleaner alternative for Amazon's BWI-150-153 data center campus that would protect the community's air quality…"

"…we ask that MDE perform an alternative analysis that would study the feasibility of replacing Amazon BWI-150-153's diesel generators with batteries and/or on-site renewable energy and how that would impact emission limits…"

"…did the applicant evaluate alternatives to diesel generators (natural gas, battery storage, fuels cells…"

"… why hasn't a 'hybrid' backup system of batteries and natural gas been considered…"

"…MDE should include a provision in its permit to require Amazon to explain why it thinks that battery backup is not feasible at this time…should also be required to provide a period and plan for replacing its diesel generators with batteries…"

"…the applicant does not demonstrate an effort to explore alternatives to diesel backup power, such as battery storage systems, hybrid microgrids, or cleaner-burning fuels…"

MDE Response:
MDE is required to evaluate the project as it is submitted. At this time, there are no laws or regulations that provide MDE the authority to require cleaner or other alternatives than what was specified by the applicant. However, it should be noted that Amazon applied to burn either diesel or renewable diesel fuel. Using renewable diesel fuel can reduce overall greenhouse gas emissions by more than 50% over using traditional diesel fuel.

Amazon has offered the following additional response:

Battery Energy Storage Systems are being evaluated for use as the technology evolves, but are currently not the preferred solution to maintain availability due to the unpredictable duration of utility power outages. The large power requirements of data centers would require prohibitively large battery systems to sustain operations for extended periods at this location, and therefore, generators are needed for sustained operation.

At the moment, diesel generators are the most scalable, available, and reliable technology to provide backup power for data center buildings. Diesel fuel performs consistently when other fuels may be unavailable or pressure-dependent. Diesel is a stable, non-volatile on-site fuel that works reliably in extreme weather and utility power outage events. Hydrotreated Vegetable Oil (HVO) or R99 Renewable Diesel (RD) have been considered as an alternative fuel for use in diesel generators; however, supply in the area is limited. Amazon continues to coordinate with vendors on the supply of cleaner-burning fuels and will continue to evaluate the replacement of conventional diesel.

13. Critical Infrastructure Streamlining Act of 2024
"…the Governor's Critical Infrastructure Streamlining Act of 2024…is the reason MDE has full authority to determine whether Amazon's 100 generators will be permitted… prior to this bill becoming law, the Public Service Commission, or the PSC, had full authority over all forms of generation…"

"…we need to make a change in the leadership of this county, and also with the Governor of this state, because he's the one that okayed the permit and these data centers came running back in here like rats as soon as he overrode the Public Service Commission's decision to put a stop on the generators…"

"…a full CPCN review would have required detailed air quality modeling…"

MDE Response:
The Critical Infrastructure Streamlining Act of 2024 was signed into law, effective July 1, 2024. The law amends §1-101 of the Public Utilities Article of the Annotated Code of Maryland and defines "critical infrastructure" as assets, systems, and networks, whether physical or virtual, considered by the U.S Department of Homeland Security to be so vital to the United States that their incapacitation or destruction would have a debilitating effect on one or more of the following: (i) security; (ii) national economic security; (iii) national public health; or (iv) safety. Critical infrastructure includes hospitals and health care facilities and data centers.

The law also amends §7-207 of the Public Utilities Article to exempt emergency generators located at critical infrastructure facilities from the requirements of obtaining a Certificate of Public Convenience and Necessity (CPCN) or a waiver from a CPCN from the Public Service Commission before applying for an air quality permit to construct from MDE.

Governor Moore's priorities for the State of Maryland include creating safer communities, creating an equitable, robust and competitive economy, and advancing infrastructure to better connect all Marylanders. Maryland must develop, maintain, and protect critical infrastructure facilities, such as hospitals and data centers, that provide the services necessary to meet these priorities.

Although the overall requirements for emergency generators at data centers have been streamlined, Maryland's rigorous air permit application process includes multiple opportunities for public review and input, and the permit contains some of the most stringent limits and provisions in the region.

14. Construction, Dust, and Runoff Issues

"…we've had problems with the dust, the runoff, we've made calls to the county, the MDE, EPA…they really didn't do anything…"

"…what is in the dust created by building on the Eastalco brownfield site…"

"…what is in the dirt that's being tracked all over the roads in Adamstown by the trucks coming from the brownfield site…"

"…are the street sweepers really helping, or are they just watering down the dire and creating contaminated runoff…"

"…release the dust analysis that was done…"

MDE Response:
The historical owner of the site, Eastalco, operated as an aluminum smelting plant until its closure in 2010. As a former industrial site undergoing environmental remediation for reuse, it is commonly referred to as a "brownfield" project. It is worth noting that “brownfields” are contaminated or potentially contaminated sites, frequently from industrial activity. The Eastalco site is not a Superfund site, but a portion of the 2,100-acre property was previously characterized by the State identifying specific contaminants formerly utilized by the Eastalco smelter and is under the requirements of an environmental covenant.

The project subject to this permit is not located on the “brownfield” site.

MDE reviews required sample results for contaminants in soil, stormwater, and groundwater. In some cases, where contamination from former industrial activity does impact water on the site, the developers hold that water in tanks called “frac” tanks, and then treat that water before discharging it, or transport it offsite for further treatment. If that water is determined not to contain contamination at levels of public health concern then it can be discharged, or used for activities on site like dust suppression. This is consistent with long-standing practice for managing potentially contaminated ground water and construction water. With respect to the existing dust issues related to construction activities at this site, MDE has not taken any dust samples or performed a dust analysis.

More information and documents can be found on our website:

https://mde.maryland.gov/datacenters/Pages/FrederickDataCenter.aspx

15. Water Supply Concerns
“…we do not need our groundwater to be depleted…”

MDE Response:
The Quantum Frederick data center campus, where Amazon’s facility will be located, is supplied water by the New Design Water Treatment plant, which is operated by Frederick County and has an existing Water Appropriation and Use Permit. Future plans for the site include the incorporation of wastewater reuse as a supplemental water supply from the Ballenger-McKinney Wastewater Treatment Plant.

Amazon has offered the following additional response:

Amazon is sourcing water from the Frederick County Division of Water and Sewer Utilities and received a Water Capacity Permit from the County. Amazon is also not required to install new groundwater wells as part of this project.

Amazon notes that water usage, groundwater withdrawal, and related water resource concerns are outside the scope of review for an air quality Permit to Construct application. Interested parties may reach out to the Frederick County Division of Water and Sewer Utilities directly for information regarding water supply planning and oversight

16. Fuel Storage and Use

"…the CDI ordinances specify a 20,000-gallon tank of diesel fuel for each data center building, and 10,000 gallons of diesel fuel are housed in the belly of each diesel generator….one hundred diesel generators means a million gallons of diesel fuel at the Amazon site, not counting the multiple of 20,000 gallon tanks for each individual building…

"…does MDE have a permit application for storing diesel fuel on site..."

"…there will be tens of thousands of gallons stored on the Quantum site…a spill/leak is inevitable…"

"…how many tanker trucks will be needed to bring the diesel to this site…how large of a holding tank is needed…what precautions will be taken to prevent leaking…leakage from the trucks bringing diesel to the site…"

"…all three administrations of MDE that should be involved in this; land, water and air for the storage of the diesel fuel and other things possible leakage into the groundwater…"

"…increased traffic to fuel these fuel tanks…"

MDE Response:

Storage of diesel fuel and the procedures for permitting, spill containment, and response is handled by MDE's Oil Control Program. You can view information on aboveground oil storage requirements here:

https://mde.maryland.gov/programs/land/OilControl/Pages/asthome.aspx

Amazon is currently working with MDE's Oil Control Program to obtain the necessary permits for fuel storage.

Amazon has provided the following additional response:

The diesel fuel for the project will be stored in either the belly-tanks associated with each emergency generator or at one of the four 12,000-gallon above-ground storage tanks located at each building. Approximately 661,300-gallons of diesel fuel could be stored onsite once the entire campus is operational (i.e., all for data center buildings have been constructed as part of the project, and all server rooms are occupied within each building). All the fuel tanks installed are double-walled tanks in design with an interstitial space to capture any leakage from the primary tank. The interstitial space is continuously monitored for the presence of fuel through an electronic management system. Any detection of fuel in the interstitial space will result in an immediate investigation and actions taken to address the issue.

Fuel deliveries vary based on if the emergency generators were required for emergency operation, but generally occur every two weeks.

Based on the amount of fuel that will be stored onsite, Amazon will be required to comply with both EPA and MDE requirements.

Amazon will comply with EPA's oil pollution prevention requirements in Title 40 of the Code of Federal Regulations Part 112 (40 CFR 112). Specifically, Amazon will develop and comply with a Spill Prevention, Control, and Countermeasure (SPCC) Plan for the site that is required under these regulations prior to oil being stored onsite. The SPCC Plan is required to address and implement work practices during the unloading of fuel, including ensuring sufficient measures are in place to handle the most likely quantity of oil that could be released. The SPCC Plan also includes elements associated with inspecting equipment, training personnel, and ensuring proper response and reporting procedures are in place.

Amazon will be required to obtain and comply with an Oil Operations Permit through the MDE Oil Control Program. This permit application cannot be submitted until the above-ground storage tanks are constructed, which will be after the receipt of MDE's air quality Permit to Construct for the emergency generators. Amazon will submit this application to MDE.

Finally, Amazon is not required to obtain an air quality Permit to Construct for the diesel tanks. MDE's air regulations specifically exempt diesel fuel tanks from the requirement to obtain an air quality Permit to Construct.

17. Cross-State Pollution

"…we're already absorbing pollution from all the West Virginia power plants…"

"…why aren't the feds on the Virginia pollution that's coming across our river…"

MDE Response:

In 2024, the United States Supreme Court issued an order staying enforcement of the U.S. EPA's Good Neighbor Plan, a plan that would require the U.S. EPA and states to address interstate transport of air pollution that affects downwind states' ability to attain and maintain NAAQS. The order remains in place pending judicial review.

Although regulating cross-state air pollution faces legal challenges at the federal level, Maryland still monitors cross-state air pollution using existing tools and programs currently available. The U.S. EPA NCore Network is a multi pollutant air monitoring network that integrates advanced measurement systems for particles, pollutant gases and meteorology. Only one (1) NCore site is required in Maryland, but MDE's Air Monitoring Program operates two (2) sites, one in Piney Run (Western Maryland) and one in Beltsville (Central Maryland). The Piney Run site was selected to provide a good indication of cross-state pollution coming from the west from day to day.

Additionally, MDE is an active partner in the Regional Atmospheric Measurement, Modeling and Prediction Program (RAMMPP) operated by the University of Maryland, College Park. The program collects extensive data and conducts modeling that allows MDE to determine the specific states and sources contributing to cross state pollution. Identifying what is coming into the state can help MDE better understand, and therefore control, local contributions.

Despite challenges from rollback of Federal regulations controlling pollution from upwind states, Maryland is meeting the National Ambient Air Quality Standards (NAAQS) for 5 of the 6 major "criteria" air pollutants under the Clean Air Act. For the 6th – ground-level Ozone – Maryland has received a "clean data determination" for the area of the state that includes Frederick County, the first step of confirming that the state is now meeting that standard.

18. Noise, Light, Vibration, Wildlife, Agriculture Concerns

"two standby generators…still shook the building…the noise was quite significant…one Amazon data center will need almost 100 generators, and that means 3 to 5 generators will be running each day…"

"…permitting so much noise pollution is absolutely unacceptable…generator's intermittent extremely lout noise will be an excessive nuisance…"

"…what happens if they don't comply with noise…levels…"

"…noise and light pollution…"

"…the noise level already created by the cooling system for this data center is already noticeable…will there be mufflers put on these generators to reduce the noise…"

"…putting these big generators in, it's even going to be worse…the little generators vibrate our house…we know they're running constantly, 24-7, and with the lights that are shining on our place…"

"…have any exemptions been requested already for noise or pollution standards…

"…what is the effects of these generators on the wildlife in the area and the crops in the particulates, the other components of the exhaust, the noise and the vibrations…Maryland Department of Agriculture perhaps would be interested in this permitting process…regarding deposition of some of this stuff on the local crops, and then Department of Natural Resources…"

MDE Response:

Vibration, light, wildlife, and agricultural impacts are not within the scope of the Department's review of an air quality permit application for a minor source of air pollution. With regard to noise, all noise regulations and noise enforcement authority are handled by local governments. In Frederick County, noise complaints should be referred to the following:

Sheriff's Office
110 Airport Drive East
Frederick, MD 21701
301-600-1046

Also, to meet Maryland critical infrastructure requirements, Amazon is required to comply with all applicable regulations regarding noise level and testing hours.

Amazon has offered the following additional response:

Amazon will comply with all applicable Frederick County Ordinances and state regulations regarding potential for noise, light pollution, vibrations, and effects on wildlife and agriculture.

Amazon works hard to ensure our data centers operate as quietly as possible and do not negatively impact our neighbors. In addition to meeting all local noise regulations, Amazon strives to design our facilities to federal guidance for the health and welfare of surrounding communities, which often are lower than the regulatory standards. On a project-by-project basis, Amazon implements several noise mitigation measures including: sound-dampening building materials and insulation, strategic placement of cooling equipment, visual screening where needed, and the use of acoustical enclosures and mufflers for our generators. Throughout design and construction, Amazon partners with acoustic engineers to keep noise levels low and ensure the facility minimizes impact on neighboring properties.

As demonstrated in the Environmental Noise Assessment Report dated December 15, 2023, which was included in the air quality Permit to Construct application and submitted to Frederick County as part of the zoning and building permit approval process, the data center campus is expected to comply with the regulatory requirements of Frederick County Code of Ordinances during typical emergency generator maintenance testing and emergency scenarios.

19. Engine Testing and Maintenance Schedule

"…to stay within the county ordinances of testing between 8:00 a.m. and 5:00 p.m., between three or four of the 100 Amazon diesel generators will need to be tested every school day…four hours a day that school children will be exposed to pollution and particulates, as well as noise and vibration…"

"…will generator testing be prohibited during school hours, recess, and other after-school outdoor programs…"

"…will testing be restricted to weekends or evenings…"

"…will MDE require a limit on how many generators may be tested simultaneously to prevent short-term spikes in pollution…"

"…testing must never occur between 7:30 AM and 4:30 PM, Monday through Friday…to protect the students at Carroll Manor Elementary and the toddlers at Creative Memories Children's Learning Day Care…"

"…due to large list of residents living only 500 feet from the Data Centers, testing must never occur during early morning or late evening sleeping hours…"

"…propose one specific window for routine monthly testing…Wednesdays between 4:00 PM and 5:00 PM…"

MDE Response:
The Department evaluates a project's emissions for compliance with applicable air quality standards. There are no applicable State standards for this project that limit the time of day the equipment can operate and no permit limiting when the generators can be tested.

Amazon has offered the following additional response:

Normal maintenance activities typically entail running one emergency generator per building at a time, but there are instances where the readiness testing or repairs could require multiple generators to run at the same time. Scheduled testing and maintenance activities typically take less than 5 hours per year per generator, with most of the total time consisting of short 6-minute bi-weekly readiness testing. Amazon will ensure an optimal testing time is selected for the emergency generator testing based on Amazon's required testing schedule, and any applicable local or permit requirements, and local factors (e.g., time of day, day of the week). Testing and maintenance typically occurs between 8:00 am and 5:00 pm.

20. Site Location and Proximity to Carroll Manor Elementary School
"…was relocating the generator yard farther from the elementary school evaluated…"

"…request that the Draft Air Quality Permit…be withheld and not granted until specific safety retrofits are completed at Carroll Manor Elementary School…"

"…if I'm not satisfied with the protection of this school, do I have the right to then send my kid where I want to send them in county…who do I talk to about that…"

"…Department of Education, the psychological effects on the children…"

MDE Response:
The Department cannot specify where a source may be located. The Department's decision on the air quality permit application is based solely upon the projected air pollution related environmental impact on the area. Local issues such as zoning and land use are under the purview of Frederick County. The Frederick County Government, Division of Planning and Permitting confirmed that a Critical Digital Infrastructure Facility is an allowed use within the General Industrial and Limited Industrial Zoning districts for this property.

MDE does not have the authority to question or challenge local zoning decisions. State law precludes the Department from considering these land use issues. As long as the facility meets local zoning and land use requirements, the Department is required to review an air quality permit application.

21. Emergency Situations and Safety Issues

"…they should fund their own fire department…"

"…in addition to the 99 generators, they're talking about 442 generators the size of diesel locomotives with 1.332 million gallons of diesel on site, a disaster waiting to happen…"

"…what is our evacuation route…how are we going to get out of here when there's a fire…"

"…how about the State Fire Marshal's Office…how about MEMA…"

"…the facility shall install an Outdoor Warning Siren rated at 130 dB to ensure audible warning coverage for the Elementary School playground and Green Hill Manor residents…"

"...high-intensity Visual Strobe Warning Lights…shall be installed at the fenceline adjacent to Moreland Rd and Ballenger Creek Pike…must activate 5 minutes prior to any generator engine start…"

"…how will MDE notify the public of pollutant hotspots…"

"…what procedures are in place for managing a fire, explosion, or spill…does the local fire department have adequate equipment and training…"

MDE Response:

The Department's regulatory focus in evaluating an application for a permit for the construction of an air pollution source is limited to air quality impacts associated with the equipment presented in the application. For environmental safety matters, the Department's Office of Emergency Preparedness and Response is available to respond to environmental emergencies 24 hours a day, 7 days per week. Citizens may call 866-633-4686 (866-MDE-GOTO) to report events that pose an immediate threat to health or the environment such as oil or chemical spills, pollution accidents, fish kills or algae blooms, sewer overflows, and radiation incidents. In the event of an emergency, citizens should also reach out to their local fire and rescue services.

Amazon has offered the following additional response:

Amazon has a comprehensive emergency response plan for their facilities including emergency generators and fuel storage hazards. This plan includes fire, spill, and emergency response. Amazon's overall safety/risk plans include prevention, detection, maintenance, environmental compliance, training, and operation procedures.

Additionally, Amazon will have a SPPC plan, as mentioned in the previous response, and internal management programs. Further, we have spill kits located within our sites should a spill occur. MDE would be notified if a spill triggers applicable reporting thresholds.

22. Energy Concerns, Economic Impact, Data Center Study

"…what is needed at the legislative level to look at cumulative effects of a particular site…"

"…there are going to be a data center studies…how… [is MDE] …going to be integrated into them…does…[MDE]…have any influence on who are public contributors to the studies…the MD Data Center Coalition…have individuals and organizations who want to be involved…"

"…we do not need our energy costs to skyrocket…"

"…there is not adequate power supply available…means the emergency generators will not be for emergency use only…"

"…during the excessive heat spells this summer, Dominion asked VA Data Centers to run on backup power so Dominion would have enough power to serve the public…what assurances does the public that that this won't be a constant occurrence with the Quantum Data Center…"

"…what's to stop the data centers from running at length…during the summer to enable grid supply to the public and service infrastructure…"

"…Quantum's datacenters will be running on diesel generators more often than not…especially when it's hot…my fear is that they will start up on diesel…there are no regulations to stop this from happening…"

"…last summer Dominion asked Loudon's data centers to run on back up so the grid would be able to supply the public…"

"…parts of the U.S. power grid are lurching towards failure, prompting power officials to consider requiring or encouraging data centers to power down or switch to backup generators when there's a risk of a blackout…"

"…the power shortage in the PJM region, which covers 13 states and the world's largest concentration of data centers, has stalled plans to retire about 60% of oil, gas, and coal power plants slated for retirement…most of the plants slated for shutdown were 'peaker' units, meant to run only in short bursts during periods of spiking electricity demand…peakers often have fewer pollution controls to remove toxic chemicals from emissions…some also have lower smokestacks, meaning pollution can be more concentrated locally…this is a major concern for low-income communities of color which are 53% more likely to have had a peaker plant built nearby in the last 25 years…"

"…nationally, electricity demand is outstripping supply…"

"…our energy prices were jacked up by Moore…our energy sources were cut down…so now we're in this crisis of energy…having to import it through Pennsylvania…they're going to strike it across Maryland, 67 miles…MPRP [Maryland Piedmont Reliability Project] is a real thing…"

"…would appreciate…any proposal documentation submitted by amazon and what the trade off is proposed for the state…it will not be an even trade…the state will lose while only a few will profit…"

"…Data Center Study Bill, SB116, Data Center Impact and Analysis Report was vetoed by the Governor despite overwhelming support from the General Assembly…at this point there is no objective state or county cost/benefit analysis of whether data centers are a net positive financial benefit to the public…"

"…we're generating revenue for the county…but what are we getting as the residents of Adamstown…"

MDE Response:
A data center study is required to be performed by the MDE, the Maryland Energy Administration (MEA), and the University of Maryland School of Business, in coordination with the Department of Legislative Services, under legislation passed by the General Assembly in 2025. The study is required to consider the likely environmental, energy, and economic impacts of data center development in Maryland. The Department and other contributors are currently scoping and designing this study.

As large data centers are an emerging industry in Maryland, there is not yet a significant body of Maryland-specific information related to energy and economic impacts over time in the state. However, current information on energy and economic impacts related to data centers can be obtained from Northern Virginia, directly adjacent to Maryland, and considered the largest data center market in the world. As mentioned previously, in 2024, Virginia's Joint Legislative Audit and Review Commission (JLARC) released a report to Virginia's Governor and General Assembly on the impact of data centers in Virginia. The report can be found at: https://jlarc.virginia.gov/pdfs/reports/Rpt598.pdf

Regarding broader use of emergency backup generators, in extreme weather events, the U.S. Department of Energy may issue, as a last resort, an emergency order to allow Maryland's regional transmission organization, also referred to as the PJM, to direct backup generation resources at data centers and other large load customers to operate to supply their own primary power needs. These orders are rare, only issued for a limited period of time, and are necessary for the PJM to ensure that energy needs are met throughout the region without interruption.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

AIR AND RADIATION ADMINISTRATION

1800 Washington Boulevard

Baltimore, Maryland 21230

PUBLIC HEARING

AMAZON DATA SERVICES, INC.

FREDERICK, MARYLAND DATA CENTER CAMPUS

CARROLL COUNTY MANOR ELEMENTARY SCHOOL

5624 ADAMSTOWN ROAD,

ADAMSTOWN, MARYLAND 21710

December 8, 2025

7:00 p.m.

Reported by: Brianna Fleming

A T T E N D E E S

- - - - -

Ms. Shannon Heafey, MDE
Ms. Suna Yi Sariscak, MDE
Ms. Janay Mendez, MDE
Mr. Rob Corradi, Amazon Data Services, Inc
Mr. James Coulombe, Citizen
Mr. Dale Franklin, Citizen
Mr. Gene Butler, Citizen
Mr. Dan Dister, Citizen
Mr. Sean Shillinger, Citizen
Ms. Kathy Kinsey, Mobilize Frederick
Ms. William Beam, Citizen
Ms. Holly Green, Citizen
Mr. Gary Remsberg, Citizen
Ms. Christina Brockett, Citizen
Ms. Paula Hollewa, Citizen
Mr. Frank Hollewa, Citizen
Ms. Heather Fletcher, Citizen
Ms. Elyse Wilson, Citizen
Mr. Steve Black, Citizen

A T T E N D E E S

(Continued)

- - - - -

Ms. Vanessa Rini-Lopez, Citizen

Mr. Pete Francis, Citizen

Mr. Chris Campbell, Citizen

Dr, James Wagner, Plant the Light

Ms. Anna Russell, Citizen

Mr. Mike Jones, Citizen

Ms. Jennifer Charlton, Citizen

P R O C E E D I N G S

- - - - -

MS. HEAFEY: Good evening and welcome to this Maryland Department of the Environment public comment session. My name is Shannon Heafey, I am the Public Participation Coordinator for the Air Quality Permits Program and I will be serving as moderator this evening.

Also here from the Department is Ms. Suna Yi Sariscak, Air Permits Program Manager and Ms. Janay Mendez, lead engineer. Amazon Data Services, Inc. is being represented by Mr. Rob Corradi.

This public comment session is for an Air Quality Permit application submitted by Amazon Data Services, Inc. for the installation of 92 emergency generators, each equipped with a diesel fired engine, rated at 2,750-kilowatts, each controlled by a selective catalytic reduction system, and a catalyzed diesel particulate filter; six emergency generators, each equipped with a diesel fired engine rated at 750-kilowatts; and one emergency generator, equipped

with a diesel fired engine, rated at 250-kilowatts.

This proposed project would be located at 3250 Digital Drive, Frederick, Maryland.

The Department has made a tentative determination that the permit meets all applicable air quality rules and regulations and can be issued.

This comment session is to offer citizens the opportunity to formally comment on the Department's tentative determination and draft permit conditions, or to submit written statements to the Department during the comment period.

The comment period is through December 19th, and you can email me. I have cards that I will put out. My email address is on there. You can also call me if you have questions. But again, through December 19th is the formal comment period.

The application and these draft conditions are also available for review on our Department's website. You go to MDE, the Air Quality page, and the Permits tab. And then you scroll down to the bottom and you will see Amazon. You can click on the

application and the draft permit conditions.

Statements entered into the record will be kept on file at the Department for a minimum of five years. At the conclusion of the comment period all comments received will be addressed in a document called the Response to Comments that will be prepared by the Department.

After December 19th they will review them all as they come in and we will be sending that document to all the commenters and those who have participated, which is the other reason I was asking you be sure that I have your contact information. We do want to send you that response to comments.

Before I go any further, I just want to remind people that this is actually being recorded tonight. It will be on our MDE YouTube channel within a week, I think. It depends on how quickly it takes to get everything formatted. So you will be able to catch up on that as well and share that with other folks who were not able to come here tonight.

Ms. Sariscak is going to give a presentation

statement about the tentative determination and then I will invite comments from the public. Because there are so many of your tonight, thank you for coming out, we're going to have a three minute limit.

At the end, if everyone has had a chance to speak, if we have time, we're running much later than we thought, I'll invite people to come back up and amend their statement or make a statement if they had not. But again, you have until the 19th to send me anything in writing and it all counts, so don't worry. If you haven't even thought about what you want to say tonight, send me a note in writing and it will become part of the formal testimony.

When you are making a statement, those of you who choose to, if you ask a question, we will take it as a formal comment but we will not be answering the questions. It's not an informational meeting.

What will happen is all those questions that are asked as part of your comments, that's part of what gets addressed in the response to comments document. So what that does is allow everybody to hear the

questions that were raised, or the concerns, and get the answers so everybody knows what happened tonight, what's going on, what the answers are, as best we can get them.

And before I forget, again, if anybody knows anybody who was not able to come up tonight, have them contact me or pass along their contact information. We would like to get this out to as many people as possible, and I appreciate your help with that.

Okay. So I'm going to ask Ms. Sariscak to do her presentation, and then I'll start inviting people up. It will be five at a time when I invite you up. I'll call you from what is signed in here on the sign-in sheet, then the first five. Then I will call the next five until we go through this.

We do have a court reporter here so I'm going to ask when the time comes to come up here and speak into this microphone so that she can record the comments that are made, the statements made tonight.

And also because this is being recorded for folks to review later on YouTube, anything that is said out there is not going to be recorded. Everything that

is said here will be. So one of my requests is that there's not a lot of yelling and making comments back there because it also makes it difficult for the court reporter to get everything, and possibly difficult for anyone who's going to watch the YouTube video to hear what was being said. So with that, thank you.

MS. SARISCAK: Thank you, Shannon. Thank you all so much for coming out this evening. I know it's very cold outside so I appreciate that you guys made the effort to come out.

Today, this is the public meeting for the Amazon Data Services, Inc. air quality permit, the Frederick, Maryland Data Center Campus. Once again, my name is Suna Sariscak. I'm the manager of the Air Quality Permits Program at the Maryland Department of the Environment.

So just to give you a little bit of background on the air permit application, the air permit application was submitted on October 29, 2024, and it was for a data center facility that included the installation of the following air pollution emitting

equipment. So this is what the draft permit to construct covers.

The air pollution emitting equipment are 92 emergency generators, each rated at 2750 kilowatts. Those generators are equipped with what are called selective catalytic reduction emissions control systems, and a diesel particulate filter.

In addition to those 92 larger engines, six smaller engines at 750 kilowatts are equipped with diesel-fired engines, and then also one even smaller 250 kilowatt emergency generator with a diesel-fired engine.

So before we get to the next slide I just wanted to kind of give a little bit of a background on data centers. They're fairly new in the state of Maryland. We have some smaller data centers and we just recently permitted aligned data centers here in the same area. They are considered what's called critical infrastructure.

Per the Critical Infrastructure Act of 2024, emergency generators located at data centers are no longer required to get any kind of approval from the

Public Service Commission first before applying for an air quality permit to construct. So the air quality permit to construct application was sent directly to the Department.

This project has to have, according to that act, evidence of zoning approval first, and must meet all local noise requirements before we accept the application. Next slide.

Public comment process. So this process is a little different than a lot of our other public review permits. Emergency generators are subject to what's called the Federal New Source Performance Standards under the Code of Federal Regulations 40 CFR Part 60.

In accordance with Maryland law, we must provide at a minimum electronic notice of the permit application and allow the public to comment on the permit application. And so we did that on April 24th. We actually held a public meeting here in this same room, a public meeting on the application so that Amazon could present their project to the public and accept comments on the application.

So this is the Department's preliminary determination. So following that public application meeting we conducted a technical review of the application. What we do is we verify all the estimated emissions from the project, determine the applicable federal and state air quality regulations and requirements, and then evaluate. We evaluated other data center permits in other states because we know the data centers are a fast-growing industry.

We're newer at this in Maryland so we wanted to go and talk to the other states such as Virginia, Pennsylvania, et cetera. We've talked to a lot of our peers in other states about how they're permitting data centers in other states. So on November 18th we released a draft air quality permit to construct for public review and comments. So tonight we're here to talk about the draft permit to construct and accept public comments on it.

So what goes in an air quality permit to construct? These are the elements of the permit to construct. First, on the first page, there's always a

summary of the covered installations and processes. There's a table that talks about what equipment is actually covered by the permit. Then there's general provisions.

This is information about the application, when it was received, the right of the Department to enter the facility to determine compliance with the permit.

The next section is applicable air quality requirements. This is a summary of everything that's applicable, whether it's a federal regulation or a state regulation, that's that section. Then there's construction, operating, and monitoring and testing conditions.

These are the conditions specific to the emergency generators that we're permitting. It's based on the applicable requirements; how can they demonstrate compliance, what types of operating, monitoring, testing conditions do they need to meet, how do they construct the equipment in order to demonstrate compliance with the applicable requirements?

There's also a special compliance demonstration. Since these data centers have a large amount of engines, there is a special section of how Amazon will demonstrate compliance and what methods they will use. We also have extensive record keeping and reporting as part of this permit.

Okay. So the first section, applicable air quality requirements. These are the minimum air quality requirements. Emergency generators must meet Federal New Source Performance Standards engine requirements. Because these are emergency engines, they must be certified to meet emergency emissions standards and they must be constructed, operated, and maintained according to manufacturer specifications.

These emergency generators -- now, let me kind of give you a brief overview. Emergency generators can only be used for these following operations:

They can only be used to provide emergency power when the primary power at the facility is down outside of the control of Amazon. So if their primary power, or if your electricity goes out, that's the only

time these generators can operate. And then the only other time would be for testing and maintaining those generators to make sure that in the event of emergency, they can turn on so they're tested and maintained. So those are the only three circumstances that they can operate as an emergency generator. And as such, they're subject to emergency emissions standards.

So because there are so many of the engines at this facility, this facility not only has to meet emergency engine standards that are required by the federal regulation, we also have premises wide limits on the entire facility.

Because Frederick County is located in an area that's considered not in attainment with the National Ambient Air Quality Standard for ozone, pollutants that contribute to the formation of ozone include oxides of nitrogen and volatile organic compounds. When you're not in attainment with the standard, it doesn't mean that it prohibits new sources of these pollutants from being built, but what it means is that there's additional limits and requirements and restrictions,

and that's what's put into this permit.

So the major source threshold for oxides and nitrogen in Frederick County is 25 tons. Just in comparison, in counties on the Eastern Shore and Western Maryland, that limit is 100 tons. So a facility, before it becomes a major source, has 100 tons on the Eastern Shore and Western Maryland, but in Frederick County they only have 25 tons. Amazon must comply with this 25 ton limit per rolling 12 month period. So at the end of every month, each consecutive 12 months previous has to be less than 25 tons.

Amazon has requested, in addition to these premises-wide limits, to take limits on fuel use. We also have limits on the operation so that the emissions are less than the major source level, which is 25 tons per NOx.

What I do want to stress here is Amazon requested fuel limits based on worst case engine operation, which we verified through their manufacturers' emissions factors, and included a buffer to account for if fuel meters are inaccurate of up to

33 percent. What we've put in is a fuel limit that accounts for a buffer, or includes a buffer of 5 percent fuel meter inaccuracy.

What that means is, that doesn't mean that Amazon can't use more than those limits, but when they approach those limits it's a warning sign to both the operators at Amazon and both MDE that they may be approaching a fuel limit that's going to make their emissions close to 25 tons.

It is expected under normal operation, because these are emergency only and for testing and maintenance, that emissions will be less than 25 tons. And then at this very stringent 25 ton limit for oxides and nitrogen, all of the other regulated pollutants are also minor sources as well.

Okay. Control device requirements. So most emergency engines are not required to have control devices, but because they also are subject to this overarching premises wide limit, the 92 larger engines must be equipped with control devices. They are selective catalytic reduction systems and diesel

particulate filters. They must continuously monitor performance indicators of those control devices, such as differential pressure, catalyst bed temperature, urea dosing rate, and outlet NOx concentration. The urea is injected into a control device and it reacts in order for the NOx to be converted into water and nitrogen.

And so what happens though, what we've learned from talking to Virginia is that urea has a shelf life. So if it's not used and the emergency generators aren't turned on, this urea could eventually lose its ability or effectiveness. So we have them testing it quarterly. And then the shelf life is a minimum of 12 months. So if they don't test it quarterly, they have to absolutely replace it with new urea every 12 months.

They have the option to either test it quarterly to see if there's still activity in it, or they have to replace it every 12 months so that when those emergency generators are called upon to operate and those control devices need to be operating and need to be controlled, that urea is also going to be effective so the control devices work as they're

intended.

One thing I do want to mention though is that even though the control devices are required to keep the facility wide emissions limits below 25 tons, it's not required to meet the federal engine emergency standards.

So the seven other engines that are much smaller, because I know we've received this question during the original meeting, why don't they have controls on the smaller engines, the smaller engines are 750, 250 kilowatt so they're not required to meet those controls. But MDE does reserve the right to determine that if they are getting close to 25 tons, that we might require additional controls in the future.

Testing requirements. So the permittee will be required, or Amazon will be required to perform initial stack emissions, oxides emission test. So stack tests to determine the concentration of the oxides and nitrogen emissions, sorry about that. And it's one third of the engines at first.

There's so many engines that are going in, but we want to do at least the first third within 180

days of startup of each of those generators. What we want to do eventually is all of those engines will be required to be stack tested over time.

Why we want them to be stack tested? We want them to confirm actual NOx emissions because even though they're using worst case emission factors, we want to ensure that those estimates are indeed worst case, are indeed accurate and as conservative as possible. So the stack emission tests will be used to determine actual NOx emissions. And then after the first third are tested, subsequent stack emission tests for additional generators will be included in the permittee's air quality state permit to operate.

All right. Record keeping requirements. Because this is a very large facility we are requiring Amazon to keep extensive records, records of all fuel usage, sulfur content, operating hours, all of the emissions control system operating parameters that are measured and the urea concentration or when the urea is replaced.

They must keep records of all manufacturer and

vendor literature, maintenance performed, EPA certificates of conformity to ensure that those engines are indeed certified to meet emergency standards, and all stack emissions test results.

Finally, they have to keep records of the premises wide emissions about pollutants in tons per month and then also tons per rolling 12 month period.

In addition to all of those records that they have to keep on site, they have to report to us semi-annually. So twice a year we will be requesting reports of emissions, fuel consumption and operating hours. In addition to that, if they have any occurrence where the emissions are above 25 tons or their fuel consumption is greater than those limits specified in the permit, they must also submit a report.

Following construction, this is going to be built in phases but within 180 days of the startup date or the initial date of the first emergency generator or the first set of emergency generators.

Amazon is also required to apply for a state permit to operate. This is a five-year renewable state

permit to operate. They have to demonstrate initial compliance first. We have to go out there and do a post-construction site visit to make sure that they're in compliance with all of the conditions in their construction permit before we issue them a five-year state permit to operate. It is renewable and they are required to certify emissions every year.

So this is, in addition to that, additional conditions as they're built and as we understand how they're operating will be added into an air quality state permit.

Okay. So that's the draft permit to construct and the conditions in the permit. All this information is available on our website. If you go to Maryland Department of the Environment's website, it's mde.maryland.gov. Click on Air, and then click on Permitting. You will find all that information at the bottom of that web page, the air permitting web page.

We are accepting written comments through December 19, 2025. You can send them to Shannon Heafey, and there's her email address. We'll leave this up.

All comments will be reviewed. We'll make a final determination whether to issue or deny the permit based on the comments that are received and a formal response to comment document will be issued with a final determination.

Also, as of, I guess, this afternoon, right, Shannon, we did put this presentation also up on our web page as well. So a copy of this exact presentation is up on our web page.

AUDIENCE MEMBER: (Inaudible).

MS. SARISCAK: I'm sorry, which records?

AUDIENCE MEMBER: Are the records of these tests will be made available to the public?

MS. SARISCAK: Yeah. So all of our records that are not considered confidential are made available to the public upon request. So you might need to file a Public Information Act request for that information, but they can be made available to you.

Okay. We're going to open it up for comment. Shannon's going to go ahead and moderate that.

MS. HEAFEY: Okay. So as I had said earlier,

I'm going to call folks up five at a time for three minutes each. But before I do that, I'm going to invite up the elected officials who have come with us tonight. So I would like to invite Councilman Steve McKay.

COUNCILMAN MCKAY: Hi, thank you. My comments are in the form of a couple questions and I understand that you are not postured to answer those questions tonight. I did want to offer them to you and perhaps, you know, get a response sometime in the future.

So first, so the 92 large generators are Tier 2 generators out of the factory. With the addition of the selective catalytic reduction device, the diesel particulate filter, that makes them Tier 4 compliant, right?

Now, when I learned about these generators, the first thing I wanted to know is how long do they operate typically for testing purposes? The data center developers, they like to tell us that they're never going to operate under emergency power. So the testing

seems like the dominant scenario, okay?

Now, so how long do they operate? So my understanding from my research is that on a weekly basis each generator would be operated for about five to 10 minutes. And then on either a monthly or quarterly basis they would be operating at load for about a half an hour, okay? And then annually perhaps a higher load test regimen.

Now, but the kicker is that the primary anti-pollution device, the SCR, takes about 15 to 20 minutes to get up to operating temperature before it's actually abating those diesel pollutants. So when I put all this together, most of the operating time during these tests would be under effectively Tier 2 pollution levels. Because most of the time they're operating, that SCR is not functioning yet because it's not up to temperature.

So when you do your analysis, are you going to be analyzing that from that perspective, that kind of an operating curve versus pollutant abatement, or just the end state of Tier 4 compliance? That's the first

question I have.

The second question is, so this is 92, 99 generators, okay, for one approved data center site. Out of 422 approved data generators for the total four approved sites, up to a potential of 1,000 generators for the total build out.

So my question to you is when you're evaluating this, you can only evaluate what's before you now and what is coming for you previously. For each of these applications, are you evaluating the marginal incremental impact of each new application atop what you've previously looked at?

When we talk about your premises wide limits, when we're two or three applications down the road from now and there's hundreds of generators that you've previously evaluated, are you looking at the combined pollutant impact of all of those, or are you just looking in isolation at the single application before you? That's what I would really like to know in the future. Thank you very much.

(Applause.)

MS. HEAFEY: Thank you. Okay, I have Elizabeth Law, who's going to be speaking for Senator Louis Young.

MS. LAW: For Senator Karen Louis Young. "I'm sorry that I cannot be with you this evening, but I have asked Elizabeth Law, an electric power engineer who's retired from the Federal Energy Regulatory Commission, or FERC, to read a statement on my behalf.

"First, on my Data Center Study Bill, SB116, Data Center Impact and Analysis Report was vetoed by the Governor despite overwhelming support from the General Assembly. So at this point, there is no objective state or county cost/benefit analysis of whether data centers are a net positive financial benefit to the public. I intend to either push for a veto override at the start of the new session or to present the bill with amendments again in 2026.

"Second, Amazon's 300 megawatts of diesel generators. The Governor's Critical Infrastructure Streamlining Act of 2024, also known as the Governor's dirty diesel bill by many of my constituents, is the

reason MDE has full authority to determine whether Amazon's 100 generators will be permitted.

"Prior to this bill becoming law, the Public Service Commission, or the PSC, had full authority over all forms of generation. This did not sit well with the data center industry, and the Governor used his power to alter the law for the benefit of this industry.

"I voted against this bill twice. The second time, I was one of only three senators to do so.

"Many concerned citizens are here tonight because of their concern that the diesel generators will cause harm to children at this school and to the residents who will be exposed every working day to monthly testing of each diesel generator.

"To stay within the county ordinances of testing between 8:00 a.m. and 5:00 p.m., between three or four of the 100 Amazon diesel generators will need to be tested every school day. That is four hours a day of testing. Four hours a day that school children will be exposed to pollution and particulates, as well as noise and vibration.

"There is no estimation of the effects of pollution, noise, and vibration resulting from all these diesel generators at the Eastalco site running for an emergency.

"Diesel generators require fuel. The CDI ordinances specify a 20,000-gallon tank of diesel fuel for each data center building, and 10,000 gallons of diesel fuel are housed in the belly of each diesel generator. One hundred diesel generators means a million gallons of diesel fuel at the Amazon site, not counting the multiple of 20,000 gallon tanks for each individual building.

"The county CDI ordinances have no enforcement, no independent monitoring, and no complaint hotline. The industry is willing to make a report every two years. There are no details as to what information is required or to whom the report is to be given.

"Questions. What procedures are in place for managing a fire, explosion, or spill? Does the local fire department have adequate equipment and training?

"MDE is charged with air quality. Will it be

determined if the diesel fumes are harmful?

"There is an alternative. Just over the county border at the old Dickerson plant, Terra Energy intends to install emergency battery backup power instead of dirty diesel generators. If Terra Energy can do it, why not Amazon? Batteries are silent and non-polluting. Batteries require no hazardous fuel or storage." One more sentence.

"MDE should include a provision in its permit to require Amazon to explain why it thinks that battery backup is not feasible at this time. It should also be required to provide a period and plan for replacing its diesel generators with batteries.

"If MDE thinks this is an unreasonable demand to protect our children, please explain why. Thank you, Senator Karen Lewis Young." And I have copies for you all.

(Applause.)

MS. HEAFEY: And I have, let's see, Ms. Jen Alcorn, who's running I guess for city council or county council? No? All right. Well, I appreciate

that. Thank you.

All right. Okay. So I'll start to call folks up in groups of five. There's chairs up here to come and sit while you're waiting.

First I have are James Coulombe, Dale and/or Laura Franklin, Dan Dister, Gene Butler, Sean Shillinger.

(Audio interference.)

MR. COULOMBE: My name is James Coulombe. It's spelled C-O-U-L-O-M-B-E.

AUDIENCE MEMBER: We can't hear you. Speak directly into the microphone.

MR. COULOMBE: You got my name, right?

(Audio interference.)

MR. COULOMBE: Can you hear me?

AUDIENCE MEMBER: Yes.

MR. COULOMBE: So a year ago scientists at the University of California, Riverside, and California Institute of Technology produced an analysis of the health effects of pollutants produced by the Northern Virginia's data center backup generators between 2020

and 2022.

From that analysis they estimated that the greater mid-Atlantic region had between $190 and $260 million in estimated additional health care costs as a result of backup generators operating at only 10 percent of approved capacity.

Frederick County was estimated to have annually suffered between $3.7 and $5.2 million of these pollution-related costs from generators operating across the Potomac River and many miles away, many miles distant from Frederick County.

So my question is, what, if any, analysis has been done for this application, and what added health care costs does MDE estimate will be the result of the airborne pollutants produced here within the county by these 99 large diesel generators? Thank you.

(Applause.)

MR. FRANKLIN: Okay. All right. I used to be a rapper so I'm okay holding a microphone this close to my mouth. Are we giving our names, saying who we are?

MS. HEAFEY: Yes, sir.

MR. FRANKLIN: My name is Dale Franklin. I live up in Ballenger Creek Pike. My property is surrounded by the property that was bought by Sam Fadul. It will be completely enclosed by data centers or battery backups or whatever it is if the overlay is approved as they want to do it.

Anyway, there are a lot of technical questions and a lot of people that know more of the technical side. I'm going to leave the time to them. I'm going to go for the emotional jugular, if you will.

When I was a kid I grew up in Tennessee wearing this shirt tonight. My parents didn't have a lot of money and so any time we would go on a trip, we always drove. As a child, the only time I ever flew on a plane was when we moved from Pittsburgh to Nashville. It's the only time.

We didn't have any money, so any vacation we took, we would drive. And one of the strongest memories I have from my childhood is being on a trip. It was nighttime. We were going, I don't know where, I was a

young child. I remember being woken up by the smell of something. I woke up and I looked out the window, and we were going through this, I don't know what kind of town it was, it was an industrial town and you could see smoke at night.

I remember the stink was so horrendous. I had never smelled anything so bad. And I thought, how do people live here? Who would want to be here? Like how do you live with this around you all the time? I never forgot about that.

So six years ago my wife and I, we left Montgomery County, wonderfully glad to leave Montgomery County. We bought a small farm here and we became farmers. We have chickens, ducks, and goats. We're true farmers. We have an active farm. We live across from Pete, who has a seventh generation home that was built in the 1700s. And on his property there's a stop on the Underground Railroad, if you didn't know, in Adamstown. We have that. This is a very historical place.

I have three grandchildren right now and they

come to the farm every summer, and sometimes more, and they play with the goats and they do different things. And as I think about this development, there's lots to be said, but I think about the diesel generators, that's what this meeting is about tonight so let's stick to that. I think about the pollution that it will cause.

And again, I'm not speaking on the technical side. It would be nice to believe all of the technical information that's positive. It would be nice to know that the government is supervising and enforcing things, but we know they haven't so far. Permits, pollution, things have been violated already numerous times at the data centers, and no one has enforced them. So we have no confidence that when you say we're going to monitor this, they're responsible to report this.

There is no precedent for the state of Maryland to say we're going to enforce it, and we're going to do what needs to be done. You don't have confidence from us that that will be the case. I have 18 seconds.

What I would say last is, I do not want my

grandchildren telling me one day, or their children, or anyone saying we used to love to go to Lolly and Dippa, that's what they call us, Lolly's my wife and I'm Dippa. It's my grandparents' names. I don't want them to say we loved going there, but it used to stink so bad every time we would visit.

(Applause.)

MR. BUTLER: My name is Gene Butler. I live on Ballenger Creek Pike right in front of the first data center that they're building.

From day one, when we've had problems with the dust, the runoff, we've made calls to the county, the MDE, EPA, everybody, everybody that we could. They said we'll see what we can do. Yeah, they really didn't do anything. They sat on their hands and did not do anything.

They're expecting Rowan and Hiit to police themselves. They're not. They got these sweepers out there, they've gotten a little better but today there's mud on the road. It's gotten worse. It's been mud on the road. It's been a sloppy mess. You know, I've had

contact with Rowan and Hiit. They've come and visited me. I've had some of the county council members down to see the problems that were happening with the traffic.

I just think, with these generators, I have four kids. You know, the little generators with the lights and stuff that's running now has kept my family up, kept my kids up, during the night. So putting these big generators in, it's even going to be worse. And the little generators vibrate our house. So we know they're running constantly, 24-7, and with the lights that are shining on our place. We've been in contact. We'll see what we can do. They do not take care of it right away. It's the next day or two days later. They just come and try to smooth things over.

The main contact with Rowan, out of Georgia, he's come and talked to me. They just blow smoke up our butts and we're tired of it. The community's tired of it. We do not want this. Thank you.

(Applause.)

MR. DISTER: My name is Dan Dister. I live on Nottingham Place. I have basically five technical

questions that I would like to see answered.

First one I think was kind of potentially answered before. So these 99 generators are supporting one building, or all the buildings, or how many buildings? I would like to understand, because if they're only supporting a single building, then it's a factor of 10 or 15 times 99 equals the total number of generators that will be running, which I believe the gentleman alluded to is like an order of magnitude, a lot of generators running.

Second question. Is a full loss of power the only emergency situation that they will be running the generators, or will they run the generators if the sun's not shining, or if they have a bad day?

But the reason I ask that is that the Code of Maryland Regulations states that these generators can only be run or can be run full time in any emergency situation. And the definition of emergency is a little flexible and they could expand that to be we're just going to keep running them and keep running them. So that's my second question.

Third question. Have any exemptions been requested already for noise or pollution standards or for the number of hours they can operate in these generators in a non-emergency situation? So I would assume no exemptions have been granted. Maybe, maybe not. But let's ask, how many exemptions have been requested already?

Fourth question. In a full loss of power situation, how many generators out of 99 have to operate? Two of them? Fifty of them? A hundred of them? Again, we need to understand. When they turn these on in a full emergency situation, does that mean they're all running all the time, or can they just run with five of them? Again, it's a little technical detail. It would be nice to know the conditions that these generators would be running on.

Last question is, again, it's been hinted at before. After this all is done and they're all up and running, they pass the initial test. We know how those go. They will be on their best behavior. Everything will be good. They will test them. All these control

devices are in place. They're off and running.

After that, who monitors for compliance and at what frequency for the pollution standards? Keeping in mind that pollution is air pollution, noise pollution, vibrations. All of those things are considered pollution under the Code of Maryland regulations. So those are my questions. Thank you.

(Applause.)

MR. SHILLINGER: Hi, I'm Sean Shillinger, S-H-I-L-L-I-N-G-E-R. I live right over there.

AUDIENCE MEMBER: Speak up.

MR. SHILLINGER: I live right over there. My daughters go to this school. I have two young daughters at Carroll Manor Elementary. I don't think it's any surprise to anyone that the diesel generators cause respiratory issues, cardiovascular problems, increased cancer risk. And public health costs estimate that this will cost over $20 billion annually by 2030 for all the diesel generator health problems caused by data centers.

So while everyone might think there's some

kind of financial benefit to having these, we run that out in our health and in the cost of public health. So we're really selling ourselves out to have diesel generators all over our community.

My daughter also is immunocompromised. So diesel generators also affect elderly, children, and people with immunocompromised conditions more than anyone, so we've already checked two boxes for my family.

I would just ask to clarify what was presented earlier as I too, like everyone else, am skeptical of the state of Maryland's involvement in keeping us safe as the leaders that I thought I elected to keep me safe have not done so. We are already this far along in the process, unfortunately, and we're talking about surrounding an elementary school with diesel generators. I can't believe we're here right now talking about this.

So just to clarify, I'm safe to go outside with my daughters and my family anytime except for weekly, monthly, quarterly, and when there's a power outage. Then I should stay indoors in my own home.

(Applause.)

MS. HEAFEY: Okay, folks. I need to ask again for you not to applaud too longly. They can only pick up what is in this microphone and the clapping comes over into the court reporter's microphone. So I appreciate it, but a little bit.

Okay. I want to ask the next five folks to come up. I'm going to ask for Ms. Kathy Kinsey to come up, Mr. William Beam, Ms. Hope Green, Christina Brockett, and Gary Remsburg.

(Cell phone interference.)

MS. KINSEY: Hello, my name is Kathy Kinsey and I am here to speak on behalf of Mobilize Frederick tonight. I just want to echo the concerns that were expressed by Councilman McKay.

I understand that MDE has not adopted regulations that authorize or require a cumulative impact analysis for emissions from multiple diesel generators. But the fact that there is no cumulative impact analysis for the cumulative emissions impacts of many more diesel generators that may be operating at the

same time for testing, maintenance, or other non-emergency reasons at other sites on the same campus, diesel generators that will also be permitted on the campus, seems to us to be a major flaw in the permitting process for these diesel generators. And if the grid goes down and there are hundreds or perhaps even thousands of diesel generators operating simultaneously under emergency conditions, maybe at full load for some indeterminate period of time, the emissions impacts could be really significant.

So we would like to see MDE develop regulations that would require a cumulative impact analysis that would factor into the permitting decisions for these diesel generators, especially given the large number of generators that we're talking about when we're looking at the full build-out of this campus in the next five to ten years. Thank you.

(Applause.)

MR. BEAM: Hi, William Beam. I live on Boundary Creek Pike, about a mile from the site. First of all, they should fund their own fire department. We

should not have to foot the bill for that.

And in addition to the 99 generators, they're talking about 442 generators the size of diesel locomotives with 1.332 million gallons of diesel on site, a disaster waiting to happen if there ever was one. I'm already doing a noise analysis. I would like to talk to the gentleman that was here earlier because I have sound testing equipment.

And what are the penalties that they're going to impose on these guys, and are the penalties going to be put back into our neighborhood, not into the general fund for everybody in Frederick? We are the ones being affected, not the people that live in Walkersville and Thurmont?

We're already absorbing pollution from all the West Virginia power plants, by the way. That all comes right over here. We have to breathe it. Why aren't the feds on that? Why aren't the feds on the Virginia pollution that's coming across our river? Where are they?

And now they're talking about a gas power

plant right down the street, putting me in between this thing and another thing with a 300-foot tall stack. Don't want to see that. A battery storage unit also over there. Don't want to see that either.

Let's see, I think that's pretty much it. Everybody's covered almost everything else. I hope to see you all at all these meetings because this has got to stop.

(Applause.)

MS. GREEN: Hope Green. I live in Adamstown. I'm a new neighbor of Amazon. Has any air monitoring of the quantum site been done recently, and have there been any updates to our non-attainment status to add contaminants other than eight-hour ozone? Don't you think proper monitoring and update of non-attainment for other than that should have been done before any approval?

Are there any regulations that would stop Amazon from starting up on full generator power and running perpetually until they have adequate power? Because filtering is an add-on, not factory installed,

who's checking efficacy? How often?

The mission of the Maryland Department of the Environment is to protect and restore the environment for the health and well-being of all Marylanders. Key aspects of the mission, environmental protection. MDE is dedicated to safeguarding the state's air, water, and land resources ensuring that the environmental health of Maryland citizens is prioritized.

Stewardship. The Department commits to conducting its operations in a manner that demonstrates good stewardship of natural resources, integrating environmental management principles into all levels of its organization.

Community engagement. MDE emphasizes the importance of partnerships and outreach to involve a broader range of stakeholders in addressing environmental challenges.

Innovation and science. The Department utilizes science-driven regulations and innovative strategies to enhance environmental protection and improve service delivery to the public. If batteries

can run the data center until the generators fire up, then why can't they be used as backup power?

The Maryland Department of the Environment mission reflects its commitment to ensuring a healthy environment for all residents through effective management, community involvement, and adherence to environmental laws and regulations. This mission guides the Department's actions and policies as it works towards sustainable environmental practices in Maryland. So I ask you, how can you possibly approve these generators?

(Applause.)

MR. REMSBERG: Yeah, my name's Gary Remsberg. I live in Knoxville, Maryland. I'm a property owner right up the street here. I'm a 62-year-old resident of this county. I saw what I consider to be an MDE failure when Estalco was on this premises.

As an elementary school student I climbed on the phosphorus monitoring stations and everything that they put up here, and I also watched a lot of my neighbors. The ladies died from breast cancer, ovarian

cancer, different things like that, and, you know, that's after the fact. I would hate to see the children and the grandchildren of this community have to, say in 10 or 15 years, oh, the data centers were a bad thing. We shouldn't have approved those generators.

So, you know, to the people in the audience, we need to make a change in the leadership of this county, and also with the Governor of this state, because he's the one that okayed the permit and these data centers came running back in here like rats as soon as he overrode the Public Service Commission's decision to put a stop on the generators. So that's my point. Thank you.

(Applause.)

MS. BROCKETT: Hi, I'm Christina Brockett. live here in Green Hill Manor. This question actually came from our son. He is finishing his degree as a naval architect and marine engineer.

Federal regulations for the environmental control areas and ECE-associated areas for regulation for ships are that Tier 3 generators are standard. This

is for areas within 200 nautical miles of the coastline where the typical number of generators per ship might be as low as one, upwards of eight.

Why is it then that the regulations for hundreds of miles from our coastline are more stringent than what is proposed for within a mile or less of residences and a school? Why would you approve such a large density of generators with potentially less protection for areas within less than a mile of residential area and a school? Thank you.

(Applause.)

MS. HEAFEY: I have Erin Campbell, Paula and Frank Hollewa. That's out last folks and then I will invite folks to come back up and amend their statements, because we have some time.

MS. WILSON: Uh-uh, no, no. I was on that list.

MS. HEAFEY: I'm sorry, I didn't see your name.

MS. WILSON: Yeah, Elyse Wilson.

MS. HEAFEY: Oh, my gosh. I'm so sorry.

Come on over and sit here.

MR. HOLLEWA: My name is Paula Demoka Hollewa. I live in the Adamstown Commons, and I've actually experienced horrible water conditions even though I'm through the county.

I've had some health issues. My doctor told me not to bathe in my water. I've had the county up. I've had the University of Maryland out. I have low immunity so I get sick easily, and I was noticing it a lot during this process. I realized that if you saw my water, you would -- I don't even know. There's dirt in my water. But regardless of that, nothing's been done with that, and that was months ago through your company or through your organization or whatever you want to call it. I think it's horrible.

When I did the research, because I was so adamant to know what is happening to our water or to our community, I really didn't care about the data centers honestly. I just drive by them. They don't bother me. However, they are bothering me and my health. And I researched it and I researched this.

I researched Memphis, Tennessee, and California, Riverside, and Oregon, and I researched all their health and the longevity of how long they've had the data centers there because we don't have that here. We don't have any statistics here. And it was blindsiding to know that there's a cancer streak in the Memphis area which has gone blind-eyed, and there's also miscarriages and cancer and heart conditions with this diesel air pollutant. There's asthma problems and there's respiratory problems for elderly.

Now, if that isn't enough for you to see as an environmental agency, I really don't know what is. But I do know that as a citizen, it says right here, it's worth mentioning we have, there's a clean air, and it's both a constitutional right according to the 9th Amendment, and a human right according to the United Nations, so we should not be going through this at all. Thank you.

(Applause.)

MR. HOLLEWA: Frank Hollewa, Adamstown Commons. Does somebody have a cigarette? Who smokes,

I need a cigarette.

MS. HEAFEY: Sir, can I tell you that it won't go into the record because they won't be able to see what you got.

MR. HOLLEWA: That's part of the point. Who has a cigarette? Seriously.

AUDIENCE MEMBER: Can we smoke in here?

MS. SARISCAK: No.

MR. HOLLEWA: Why not? Why can't we smoke in here? You know why?

AUDIENCE MEMBER: The health of our lungs.

MR. HOLLEWA: Very good. In 2008, Maryland passed the no smoking in the schools. Why did it take society so long to catch up that secondhand smoke was bad for us? 2000 and 1990, 1980, some of us are old enough to remember smoking, and all of a sudden society caught up with it and said, wait a minute, this is bad. You should not be subject to something that somebody else is doing to you.

It's like somebody smoking secondhand smoke. I actually have a right to say no. We don't know what

these generators, how much damage this is going to do. Just like in 1990 and 1980, they didn't know secondhand smoke could do this damage.

We have kids that go to this school, five-year-olds, six-year-olds, seven-year-olds, young kids, five years out of their life, nine months out of the year. Fifteen years from now some doctor is going to put two and two together and go, wait a minute, you're from Adamstown? You're the third child that was in Adamstown. Did you go to Carroll Elementary School? They found a lung disease.

There's enough concern, enough evidence, enough concern that we don't know. You don't know how much damage a million generators and the fumes and whatever's going to happen is going to happen to our little kids until it's too late. It would be a shame that the information we have now, just like with secondhand smoke, we didn't do anything about it.

Unfortunately, it might be years down the road, somebody saying batteries and things like that, there's other solutions, other alternatives to this.

Don't do something that you really don't know how bad it's going to be and how harmful it's going to be.

This has the potential to harm our kids that have no choice but to go to this school and get this fumes and all the toxins and whatever's going to happen. We have enough intelligence now to say this isn't a good idea. So why go down a rabbit hole?

Why go down something where you know it's going to cause problems and potentially 10-15 years down the road extremely harmful to our kids? This is our future, so look after them. Thank you.

(Applause.)

MS. FLETCHER: Hi, my name is Heather Fletcher, and I'm a candidate for the Frederick County Board of Education. I live in Point of Rocks and we lose power all the time. I don't know what it's like in Adamstown. Do you guys lose power a lot? Can you raise your hand so I know how often you lose? Yeah, it's all the time.

And what constitutes an emergency? I may have missed it in the presentation, but normally when there's

an emergency and you're allowed to run things under an emergency, you get free reign to run it however long the emergency exists for.

I don't think that Amazon losing power is an emergency. We lose power and it's no emergency. I think they should not get an exemption if they lose power to run their data centers. They can go out of business just like the dentist I went to the other day who couldn't process her payments or anything else all day because their internet service was down.

And I don't think you guys mentioned how you're going to protect this school. I don't think the government that we paid for cares about us actually at all. I think you need to release the dust analysis that was done. And I am asking for an official PIA request right now. I need that posted.

MS. HEAFEY: I'll need you to put that in a PIA request form on our website so it goes to everything.

MS. FLETCHER: No, I'm going to do it right here in public in front of all these people. We want

it on your website. We want it emailed to us. We're on your little list here. We want the dust analysis. And anything you have on the water, I don't know if that's your department or not, is that their department?

AUDIENCE MEMBER: No. Sally Smith never got back to any of us six weeks ago.

MS. FLETCHER: Yeah, we the people say no. We say no. Do you hear us? We pay your salaries. You're supposed to protect us and we say no.

This is absolutely unacceptable. Diesel generators blowing into a school. And have you driven by these residents who have mounds of data centers in their backyard? How would you feel if you had a little girl or a little boy, a baby in a crib, and you had these lights and these vibrations and the water pollution and the dust and the diesel generators going up in your air? It's absolutely unacceptable and we say no. We will not stand for it.

When are our government workers and government officials going to start protecting we the people? It

is absolutely unacceptable. Thank you.

(Applause.)

MS. WILSON: Is this sounding okay? Don't start me yet. Okay. Does this sound crunchy? We're good? Okay. One, MDE --

THE REPORTER: We need your name first.

MS. WILSON: Okay. My name is Elyse Wilson. I live on Decatur Drive across the street down there, like a block from the elementary school. My kids were the first kids to actually walk to this elementary school. Before that they were all bussed. That's how long I've been here and how much I know of Carroll Manor.

I know for a fact that MDE, your boss, is Governor Wes Moore. I know for a fact when we need stuff done by MDE, like Sally Smith with AIR. And Hope Green knows this very well. What, six weeks ago she said she was going to get back to us? She hasn't gotten back to us at all. So when we have an urgent issue with AIR, when are we going to hear from you? Are we just going to be dead on the floor before we hear anything

from you guys?

We don't trust the MDE. You've already proven us with Brownfields. We had a dust storm and you all did nothing. With water, we had an issue with MDE and you guys did nothing until Jessica Fitzwater finally said, well, I'm going to run for office again. Oh, now I'm going to believe the people. I'm going to do a well test now because I'm running again. Hi, I'm going to give you guys all these benefits. So I just want CDI to overlay because Jessica Fitzwater, you know she gets campaign funds from IBEW and all these other unions, right? So these construction worker jobs are worth the lives of us, the lives of our children, the lives of our grandmothers, the lives of our grandfathers. No.

I also put in an MPIA request. And, you know, for this elementary school, it needs to be sealed and I'm going to be specific on what it needs to be done. We need a special retro seal and fit, an HVAC system, and a HEPA filtration system to make sure. And I want the county to test it. We're not going to take anyone's word for it that no bit of pollution is going to enter

this school.

Secondly, regarding we want air pollution sensors with sirens. Right now the sirens are just in the data center so when the 20-25 people, when all the construction is done, that they can hear something. No. We want to see it. I want us to hear it all the way down Green Hill Manor. I want to hear if there's a pollution all the way through Adamstown Commons, not the guy that's just sitting at the daggone data centers. We need them attached to our fire station.

And by the way, I've asked what is our evacuation route and I was told we don't know. How are we going to get out of here when there's a fire? We have two little two-lane country roads. We're not Loudoun County, Virginia.

Next, there is no reason for them to run these data center diesel generators during school hours. 99 -- not just 99, add the 99 plus 129 from aligned data centers, that's 228 so far. So when you think when all those are going to run maybe a half hour at a time, 20 minutes at a time, around 228 of them, how are the kids

supposed to learn? How are the kids supposed to help with their teacher?

Governor Wes Moore doesn't care. All he cares about is we're going to get the tax money. We're giving them their jobs, but he doesn't care about our lives. Do you care about our lives? Why does it take you guys, maybe not you personally but so many people from MDE, that you don't get back with us? We would appreciate you guys actually showing you care. Thank you.

(Applause.)

MS. FLETCHER: Elyse, when did you put in the PIA request for the dust analysis?

MS. WILSON: Over two weeks ago.

MS. FLETCHER: So there is an official PIA request into your Department for the dust analysis and we want that published to the community immediately. Thank you.

MS. HEAFEY: We were CC'd, but it was not to us. Okay. If there's anybody who has not signed in to make a statement but would like to, I've got a few more minutes. I can take a few people if you would like to.

You just have to come up, tell me your name for the court reporter, and then you will get a three minute clock like everybody. So if you would like to, come on up.

MR. BLACK: Steve Black, Adamstown, Maryland. You may not realize this, but this isn't the first time Amazon has come up for this kind of diesel generator air quality permit. And Suni, you will remember this. This was back in 2021. You did extensive work with Amazon going back and forth trying to decide if Amazon would be allowed to disaggregate their facilities so that each facility would have a lower standard for compliance.

So what they did, right, you heard the 25 tons limit. They said, well, we're going to have one data center set here. We're going to have a small strip of ground between them and then we'll have another data center. We're going to call them independent because each of them independently wouldn't go over the 25 ton limit. You told them that that wouldn't be okay.

What we are facing now is Amazon rerun. We have Box Site 1 for Amazon that we're talking about

tonight, but under construction is Box Site 2, and right next to it is Box Site 3. Are these facilities going to be allowed to salami slice the regulations like that, or when they come in for an air quality permit, will you put a hold on Box Site 1 and require that the entire collection of facilities get a permit, which at that point is a major source, and there are other rules in effect.

You did a wonderful job, Suni, of documenting all of this in your correspondence with Amazon, and it will be a useful reference point for you when the second Amazon facility comes up for an air quality permit. You had good logic in there. You actually queried other State Departments of the Environment in Ohio and Virginia and Pennsylvania to ask them how they handled the disaggregation problem.

Their answers and your decision back in 2021 will be very useful to this community because that is the thing that will allow us to not have to deal with a thousand diesel generators salami sliced into little palatable pieces even though they all have the same

kinds of generators, they are in the same industry, the generators are used for the same purposes, and the facilities are all co-located.

Please remember your earlier work in 2021 because if you can't remember it, we will be able to provide you with all of that correspondence, which is wonderfully documented in black and white. Thank you.

(Applause.)

MS. RINI-LOPEZ: My name is Vanessa Rini-Lopez. Has there been any analysis done on how this is going to affect the other, I think it's at least 20 K through 12 schools within a 10 mile radius? And that's my only question.

(Applause.)

MR. FRANCIS: My name is Pete Francis. I live right across the street. First of all, I want to know what the point of this is. Literally, nothing is going to happen from this conversation.

When we first started, we have the council folks in the back, we were going to take a slow approach, a very, very slow approach. All of a sudden,

we're talking about land on the corner of New Design and Adamstown Road. We're talking about taking all this campus. Again, I'm not sure who we're supposed to talk to about the generators. It doesn't matter, it's going to happen. The air quality, the traffic control, nothing has changed from when we've started this whole process.

So I ask you, what are we doing here? Honestly, what are we doing here? We're generating revenue for the county, which you all tout upon, but what are we getting as the residents of Adamstown? We're not getting anything. All you're talking about is a slow approach but all it is a large approach. I guarantee you've never entered this area during the daylight.

At the night, they actually turn all the lights off and all the lights are dimmed. You can't even see the amount in the enormity of the data centers. So again, I'm not sure why I'm speaking, because I feel like I have to talk, but you've ruined our county, you've ruined our area, you've ruined our community, and

we're not getting anything for it. I didn't want to go after Steve Black but I always do.

(Applause.)

MR. CAMPBELL: My name is Chris Campbell. I live off Ballenger Creek Pike. I grew up off Bounce Creek Pike, went to Tuscarora High School, and now my kids are going to Carroll Manor. I have a comment, question. If I'm as a parent not satisfied with your analysis, if I'm not satisfied with the protection of this school, do I have the right to then send my kid where I want to send them in county? Who do I talk to about that?

If I want to change schools and change districts and send them to the school farthest from here, who do I talk to about that? Is that going to be my right? What is the process for that? My daughter has asthma, so obviously my wife and I are a little more concerned as well from the health standpoint. Thank you.

(Applause.)

DR. WAGNER: Yes, my name is Dr. James Wagner. I'm speaking on behalf of a new organization

called Plant the Light. So we're an interdisciplinary organization and that thought was running through my mind tonight as I was hearing the other comments. So I jotted down here, and I'll try to be brief.

One initial thought was what is the effects of these generators on the wildlife in the area and the crops in the particulates, the other components of the exhaust, the noise and the vibrations. So Maryland Department of Agriculture perhaps would be interested in this permitting process.

I would presume, I would hope, regarding deposition of some of this stuff on the local crops, and then Department of Natural Resources. So I jotted down in addition to those two state agencies, and I'm not well-versed in the permitting process, but I also jotted down that December 19th public comments are going to be open until that time.

So, again, the overall thought I'm having is this seems to me is an interagency problem. So we've got those two additional agencies besides probably all three administrations of MDE that should be involved in

this; land, water and air for the storage of the diesel fuel and other things possible leakage into the groundwater.

How about Maryland Department of Health? How about the State Fire Marshal's Office? How about MEMA? Somebody mentioned a possible catastrophe. Department of Education, the psychological effects on the children. So those are just a few. Maryland Department of Transportation, increased traffic to fuel these fuel tanks, et cetera, and make sure the roads can handle that. The noise from that traffic.

So those are just my thoughts based on my hard work lately to get this organization going. An interdisciplinary approach is often superior and I strongly recommend it in this case, if it's not already part of the process. Thanks.

(Applause.)

MS. RUSSELL: My name is Anna Russell and I just have a few quick points to clarify. So with the generators being so near a school, I was just wondering, just because there are a few safety

precautions removing certain things from the air, how is it still fully legal that children would get poisoned due to this? How is poisoning children legal just because a few things are removed from the air that would hurt them?

And why are we at this meeting? How much is what we say actually going to affect this? People don't really care. We're here to say stuff, I don't know why I'm saying this.

(Applause.)

MS. HEAFEY: I have two more people and then that's going to be the end of our evening. So before I let them speak, I want to make sure everyone knows that they should send me their comments or add to their comments, again until December 19th. It would be great. So feel free to send more. If you guys want to come up?

MR. JONES: Thanks for sharing the requirements. I hope that the report will also address penalties such that what penalties will be assessed to Amazon if they don't meet the requirements. And

because Amazon is a multi-trillion dollar company, what effect of non-monetary penalties will be employed to the data centers to ensure compliance?

THE REPORTER: What is your name?

MR. JONES: My name is Mike Jones.

(Applause.)

MS. CHARLTON: Hi, Jennifer Charlton, WFMD radio station. I have my own show so I am media but I'm also a concerned citizen. I'm so impressed by everybody here. So engaged. It's really beautiful.

A couple of things that I struggle with, and I have covered this on radio and we will cover it again Saturday and we will keep covering it to make sure that our message gets out, we say that our energy prices were jacked up by Moore. Our energy sources were cut down. So now we're in this crisis of energy. We're having to import it through Pennsylvania. They're going to strike it across Maryland, 67 miles. So stop.

MPRP is a real thing. They don't want us to have propane stoves but they want our children to breathe diesel. We can't have EV, I mean, we must have

EV car requirements. We must go to electric cars because we don't want pollution in the air, but you're going to put diesel around our children and our elderly, and my dear friend who is COPD.

We want solar energy panels because we want a zero footprint, and you want them in the fields and on the roofs, but you want to put a diesel generator in here running at all times. And look, emergency gets declared because somebody said so, so it's all made up anyway. So you cannot put that genie back in the bottle once you do this damage.

If you strike across Maryland, you're converting all of that land to commercial property. Now I know a lot of developers, they're friends of mine, but you are destroying the land. When you do what you're going to do with this diesel, you cannot put that genie back in the bottle. And you can talk about the battery, whatever alternatives, but then slow walk it. Government's very good at that. Slow walk it until you have the proper solution that doesn't put these people's health at risk. Thank you.

(Applause.)

MS. HEAFEY: Thank you very much for that. And I want to again thank everyone for coming out this evening. Please take my card on the way out. It's on the table. Give me a conversation, call me, email me if you have questions. I would love to help out. And I will take all of your comments through December 19th. Thanks very much.

(Whereupon, the public hearing was concluded.)

CERTIFICATE OF COURT REPORTER

I, Brianna Fleming, do hereby certify that the foregoing transcription was reduced to typewriting via audiotapes recorded by me; that I am neither counsel for, nor related to, nor employed by any of the parties to the case in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

s/Brianna Fleming
BRIANNA FLEMING
Court Reporter

Maryland

Suna Sariscak -MDE- <suna.sariscak@maryland.gov>

Frederick County, Maryland - New County Pending Permit 493469 for "BWI 110 Bauxite II" and impact on Bauxite I MDE permit

AC Malinak <acmalinak@gmail.com>
To: suna.sariscak@maryland.gov
Cc: shannon.heafey@maryland.gov

Thu, May 22, 2025 at 4:28 PM

Dear Ms. Sariscak:

I am writing with a request for clarification or re-evaluation regarding the Bauxite I Permit to Construct, given the new "BWI 110 Bauxite II Site" in Frederick County, Maryland, which as of April 21, 2025 (three days prior to the MDE Bauxite I Public Informational Meeting, held on April 24, 2025) has at least one pending (electrical) permit with Frederick County. MDE's analysis of the Bauxite I project's previously submitted MDE "Permit to Construct Application" should therefore be conducted in combination with this new Bauxite II project, as the emissions are under common control and will undoubtedly exceed the synthetic minor source regulatory limit.

How will MDE address this issue moving forward? Will the Bauxite I permit be re-evaluated, and if so, when and how?

Amazon Data Services BWI Prefix

The "PERMIT TO CONSTRUCT APPLICATION" submitted to MDE by **Amazon Data Services, Inc. / BWI-150, BWI-151, BWI- 152, and BWI-153** indicates the use of BWI prefix numbering for their data center projects.

(Source: https://mde.maryland.gov/programs/permits/AirManagementPermits/Documents/Public-Review/Alt%20NSPS/FINAL_BWI150_Air_Permit_Application_(signed).pdf).

Furthermore, the pending Frederick County Electrical Permit 493469 for "BWI 110 Bauxite II Site" filed on April 21, 2025, is excerpted below:

"Title

BWI 110 Bauxite II Site Temporary Power

Location

5809 Manor Woods Road, Frederick MD 21703.

Description

BWI 110 - Bauxite II Site Temporary Power Installation to include: 15KV from Utility Metering Cabinet to MV Switch 15KV MV Cable UG from MV Switch to 1000KVA Temp XFMR 480/277V to Wire Way 1 3PH, 4W 15KV MV Cable UG from MV Switch to 500KVA Temp XFMR 480/277V to Wire Way 2 3Ph, 4W Wire Way 1 to feed total of (3) 200A Circuit Breakers, (4) 400A Circuit Breakers,(2) 112.5KVA XFMR's. (2) 400A MCB Panels, (1) 200A MCB Panel, (1) 30KVA, (1) 100A MLO Panel, (1) 125MCB Panel. (2) Temp Power Skids {Skids C1 & D1} each with (1)400A MCB Panel, (1) 45KVA XFMR, (1) 150A MCB Panel. (2) Temp Power Skids {Skids C2 & D2} each with ..."

(Source: https://planningandpermitting.frederickcountymd.gov/record-details/#intdetails/building/intid/493469)

The BWI prefix on the pending Frederick County Electrical Permit 493469 for BWI 110 is clearly suggestive that the project is under the same ownership or control, and assuming this is correct, then further permitting, by necessity, will quickly prove determinative. At the MDE Public Informational Meeting, held on April 24, 2025 at 6:45 PM at Carroll Manor

Elementary School, 5624 Adamstown Rd, Adamstown MD, there was discussion of whether there would be re-evaluation of the permit for Bauxite I, should it come to pass that Amazon will be constructing additional data centers on the same Quantum Frederick hyperscale site.

On April 24, 2025 I submitted a comment via email to MDE which included the assertion that the synthetic minor classification for Bauxite I seems to be a regulatory loophole. In the application for Bauxite I, Amazon proposes a facility-wide cap of 24.3 tons per year of NOx, narrowly below the 25 tpy threshold that would trigger Nonattainment New Source Review (NNSR) in this ozone nonattainment region. That application states that this cap includes only a ±3% error margin, which coincides exactly with the known accuracy range of the proposed fuel monitoring systems. This means a slight underestimation of fuel usage or increased generator operation during grid instability could easily push actual emissions over the regulatory limit. Not only that, but the Bauxite I permit application is for just one of multiple data center projects being developed on the 2,100 acre Quantum Loophole campus. Collectively, these projects could add thousands of diesel generators, especially given the addition of the new project BWI 110, with perhaps more Amazon projects still to come. MDE has the discretion and responsibility to evaluate whether aggregate NOx emissions across the campus or region might exceed major source thresholds or contribute to air quality violations, particularly given Frederick County's nonattainment status for ozone. The Bauxite I project, by being reviewed in isolation, circumvents cumulative emissions review, despite being part of the same land parcel and grid system. Synthetic minor permits should not be issued when facilities are functionally indistinguishable from major sources in scope and impact.

With the addition of Bauxite II, it is evident that contrary to the assertions made in the Bauxite I application, the Bauxite project(s) will exceed the applicable major source thresholds for the New Source Review (NSR) and Title V permitting programs. Since the Bauxite projects are under common control, on the same Quantum Frederick hyperscale data center campus, the Bauxite I Permit to Construct should be re-evaluated in conjunction with Bauxite II and reclassified as a Major Source.

Best regards,

A.C Malinak

Adamstown, Maryland

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Fwd: Public Comment on Amazon Data Services Air Permit Application (BWI-150, 3250 Digital Drive, Frederick County)

1 message

AC Malinak <acmalinak@gmail.com> Tue, Apr 29, 2025 at 11:36 AM
To: shannon.heafey@maryland.gov

Hi Shannon,

I am writing to ask for confirmation that my comment of April 24, 2025 (see forwarded email) was received and added to the record for this application.

Also, is there any way to see other comments that were received?

Thanks very much,
AC Malinak

---------- Forwarded message ---------
From: **AC Malinak** <acmalinak@gmail.com>
Date: Thu, Apr 24, 2025 at 11:57 PM
Subject: Public Comment on Amazon Data Services Air Permit Application (BWI-150, 3250 Digital Drive, Frederick County)
To: <shannon.heafey@maryland.gov>

Shannon Heafey
Air Quality Permits Program
Maryland Department of the Environment

April 24, 2025

Dear Ms. Heafey:

I am writing as a resident of Adamstown in Frederick County, Maryland to respectfully urge that the Maryland Department of the Environment (MDE) delay or deny approval of the permit-to-construct application submitted by Amazon Data Services for its proposed facility located at 3250 Digital Drive, Frederick, Maryland (BWI-150). The application includes the installation of 99 diesel-fired emergency generators, comprising 92 units rated at 2,750 kW, and 7 smaller units.

While the application technically meets the minimum criteria for a synthetic minor source under Maryland law, the project raises multiple legal, environmental, and health-related concerns that merit more thorough scrutiny and precaution.

Synthetic Minor Classification is a Regulatory Loophole

Amazon proposes a facility-wide cap of 24.3 tons per year of NOx, narrowly below the 25 tpy threshold that would trigger Nonattainment New Source Review (NNSR) in this ozone nonattainment region. The application states that this cap includes only a ±3% error margin, which coincides exactly with the known accuracy range of the proposed fuel monitoring systems. This means a slight underestimation of fuel usage or increased generator operation during grid instability could easily push actual emissions over the regulatory limit.

Cumulative Emissions Have Been Ignored

This permit is for just one of multiple data center projects being developed on the 2,100 acre Quantum Loophole campus. Collectively, these projects could add thousands of diesel generators. Neither the BWI-150 application nor MDE has conducted a cumulative emissions review which could be done under the Clean Air Act's planning provisions. MDE has the discretion and responsibility to evaluate whether aggregate NOx emissions across the campus or region might exceed major source thresholds or contribute to air quality violations, particularly given Frederick County's nonattainment status for ozone. This project, by being reviewed in isolation, circumvents cumulative emissions review, despite being part of the same land parcel and grid system. Synthetic minor permits should not be issued when facilities are functionally indistinguishable from major sources in scope and impact.

Health and Environmental Justice Concerns Are Underserved

The emissions from these diesel generators, including NO_2, PM2.5, and volatile organic compounds, are known contributors to asthma, cardiovascular disease, cancer, and premature mortality. Local residents, including children at nearby Carroll Manor Elementary School, the elderly, and agricultural workers, are placed at increased risk by exposure to these pollutants. Although Amazon submitted an Environmental Justice (EJ) Screening Report (Appendix E), it has not been publicly summarized or shared. No specific health risk assessment has been conducted or presented. This is a serious shortfall in a region with known vulnerabilities.

Lack of Consideration for Cleaner Alternatives

Since data center operations are now central to regional energy planning, MDE should require Amazon to conduct and submit a comparative alternatives assessment. The applicant does not demonstrate an effort to explore alternatives to diesel backup power, such as battery storage systems, hybrid microgrids, or cleaner-burning fuels.

Minimal Community Safeguards or Transparency

The proposed permit includes limited stack testing, no continuous emissions monitoring, and no community air monitoring or reporting mechanisms. Public confidence cannot be earned without clear accountability tools, especially for a facility of this scale operating in close proximity to homes, farms, and schools.

Given the concerns outlined above, I respectfully request that MDE:

-Reject the synthetic minor classification and require full NNSR review;

-Delay approval pending a cumulative emissions impact study across the Quantum/Rowan campus;

-Require Amazon to conduct and publicly disclose a Health Risk Assessment (HRA);

-Mandate a summary and community review of the Environmental Justice Screening Report;

-Place strict hourly or fuel-based operating limits per generator, not just site-wide caps.

-Strengthen the permit by requiring:

More frequent stack testing;

Continuous emissions monitoring for NOx;

Installation of local air monitors for public access;

Evaluation of cleaner energy alternatives to diesel.

This permit, if approved in its current form, would allow an industrial-scale diesel facility to operate just below regulatory oversight in a region already struggling with air quality issues. MDE has the authority and further, the duty, to prevent such facilities from avoiding meaningful review. I urge you to delay or deny this permit until it is strengthened in line with Maryland's environmental protection goals, public health standards, and climate policy leadership.

Thank you for the opportunity to comment.

A.C. Malinak

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Public Comment on Amazon Data Services Air Permit Application (BWI-150, 3250 Digital Drive, Frederick County)

1 message

AC Malinak <acmalinak@gmail.com> Thu, Apr 24, 2025 at 11:57 PM
To: shannon.heafey@maryland.gov

Shannon Heafey
Air Quality Permits Program
Maryland Department of the Environment

April 24, 2025

Dear Ms. Heafey:

I am writing as a resident of Adamstown in Frederick County, Maryland to respectfully urge that the Maryland Department of the Environment (MDE) delay or deny approval of the permit-to-construct application submitted by Amazon Data Services for its proposed facility located at 3250 Digital Drive, Frederick, Maryland (BWI-150). The application includes the installation of 99 diesel-fired emergency generators, comprising 92 units rated at 2,750 kW, and 7 smaller units.

While the application technically meets the minimum criteria for a synthetic minor source under Maryland law, the project raises multiple legal, environmental, and health-related concerns that merit more thorough scrutiny and precaution.

Synthetic Minor Classification is a Regulatory Loophole

Amazon proposes a facility-wide cap of 24.3 tons per year of NOx, narrowly below the 25 tpy threshold that would trigger Nonattainment New Source Review (NNSR) in this ozone nonattainment region. The application states that this cap includes only a ±3% error margin, which coincides exactly with the known accuracy range of the proposed fuel monitoring systems. This means a slight underestimation of fuel usage or increased generator operation during grid instability could easily push actual emissions over the regulatory limit.

Cumulative Emissions Have Been Ignored

This permit is for just one of multiple data center projects being developed on the 2,100 acre Quantum Loophole campus. Collectively, these projects could add thousands of diesel generators. Neither the BWI-150 application nor MDE has conducted a cumulative emissions review which could be done under the Clean Air Act's planning provisions. MDE has the discretion and responsibility to evaluate whether aggregate NOx emissions across the campus or region might exceed major source thresholds or contribute to air quality violations, particularly given Frederick County’s nonattainment status for ozone. This project, by being reviewed in isolation, circumvents cumulative emissions review, despite being part of the same land parcel and grid system. Synthetic minor permits should not be issued when facilities are functionally indistinguishable from major sources in scope and impact.

Health and Environmental Justice Concerns Are Underserved

The emissions from these diesel generators, including NO_2, PM2.5, and volatile organic compounds, are known contributors to asthma, cardiovascular disease, cancer, and premature mortality. Local residents, including children at nearby Carroll Manor Elementary School, the elderly, and agricultural workers, are placed at increased risk by exposure to these pollutants. Although Amazon submitted an Environmental Justice (EJ) Screening Report (Appendix E), it has not been publicly summarized or shared. No specific health risk assessment has been conducted or presented. This is a serious shortfall in a region with known vulnerabilities.

Lack of Consideration for Cleaner Alternatives

Since data center operations are now central to regional energy planning, MDE should require Amazon to conduct and submit a comparative alternatives assessment. The applicant does not demonstrate an effort to explore alternatives to diesel backup power, such as battery storage systems, hybrid microgrids, or cleaner-burning fuels.

Minimal Community Safeguards or Transparency

The proposed permit includes limited stack testing, no continuous emissions monitoring, and no community air monitoring or reporting mechanisms. Public confidence cannot be earned without clear accountability tools, especially for a facility of this scale operating in close proximity to homes, farms, and schools.

Given the concerns outlined above, I respectfully request that MDE:

-Reject the synthetic minor classification and require full NNSR review;

-Delay approval pending a cumulative emissions impact study across the Quantum/Rowan campus;

-Require Amazon to conduct and publicly disclose a Health Risk Assessment (HRA);

-Mandate a summary and community review of the Environmental Justice Screening Report;

-Place strict hourly or fuel-based operating limits per generator, not just site-wide caps.

-Strengthen the permit by requiring:

More frequent stack testing;

Continuous emissions monitoring for NOx;

Installation of local air monitors for public access;

Evaluation of cleaner energy alternatives to diesel.

This permit, if approved in its current form, would allow an industrial-scale diesel facility to operate just below regulatory oversight in a region already struggling with air quality issues. MDE has the authority and further, the duty, to prevent such facilities from avoiding meaningful review. I urge you to delay or deny this permit until it is strengthened in line with Maryland's environmental protection goals, public health standards, and climate policy leadership.

Thank you for the opportunity to comment.

A.C. Malinak

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Re: Submitting Comments on Amazon Data Center in Frederick?

1 message

Caden Koontz <caden.koontz@sierraclub.org> Mon, Apr 28, 2025 at 9:27 AM
To: shannon.heafey@maryland.gov

Hi Shannon,

I'm reaching out to follow up on this request—the original deadline has passed but will there be an opportunity for public comment?

Thank you,
Caden

On Tue, Apr 22, 2025 at 11:41 AM Caden Koontz <caden.koontz@sierraclub.org> wrote:

> Hi Shannon,
>
> I hope you are having a good morning. I'm reaching out to ask about submitting comments on the proposed Amazon data center in Frederick, MD. The MDE website gives 4/24 as the date for an informational meeting. Is that also the deadline for submitting public comments and if so, should they be submitted to this email?
>
> Thank you,
> Caden
> --
>
> SIERRA CLUB
> **Caden Koontz**
> Legal Assistant (he/him/his)
> Environmental Law Program
> 50 F Street NW, 8th Floor
> Washington, DC 20001
> Phone: (202) 417-7260
>
>

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Air quality around data centers

Dave Arndt <roseca2010@gmail.com> Sat, Apr 26, 2025 at 10:02 AM
To: Suna Yi Sariscak <suna.sariscak@maryland.gov>
Cc: Chris Hoagland -MDE- <chris.hoagland@maryland.gov>, Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Hi Suna,

It was good seeing you on Thursday evening in Frederick. Per our discussion, here are a couple of references on the harms of diesel generators at data centers. Unfortunately, not much research has been done on this.

State of Washington site: Diesel pollution from data centers

University of California, Riverside: AI's deadly air pollution toll

I am also very interested in what is needed at the legislative level to look at cumulative effects of a particular site, like the this one in Frederick where there are going to be multiple owner/operators all getting separate diesel generator permits. Tied in with that, it would be great to require battery backup as they become practical and proven reliable to phase out diesel generators. (The Amazon representative that I talked to at the end of the meeting told me that battery backup is capable of doing the job, however it cost to much – this is from one of the richest companies in the world)

Finally, since HB270 has passed and is awaiting the Governor's signature , there are going to be a data center studies and I was wondering if/how you are going to be integrated into them? Also, if you have any influence on who are public contributors to the studies. I am continuing to run the MD Data Center Coalition and we have individuals and organizations who want to be involved and lend their expertise.

Kind Regards,

Dave

Dave Arndt

roseca2010@gmail.com

240-328-7383

LPCA Board Member

LPCG Manager

Friends of the Fort Board Member

Co-Chair MLC Climate Justice Wing

May 19, 2025

BY ELECTRONIC FILING
shannon.heafey@maryland.gov

Ms. Shannon Heafey
Air Permitting Public Participation Coordinator
Maryland Department of the Environment
1800 Washington Boulevard, Suite 720
Baltimore, MD 21230

Re: **Air Permit Application - Amazon BWI-150-153 Data Center**

On behalf of its nearly 14,000 Maryland members, the Sierra Club submits these comments on Amazon's Air Permit Application for its proposed BWI-150, BWI-151, BWI-152, and BWI-153 data center facility in Frederick County, Maryland. In the Application, Amazon is requesting to install and operate 99 backup diesel generators to be used in the event of a power outage.

The 99 diesel generators will endanger the state and locality's air quality and particularly affect children who attend the eight schools located within five miles of the Amazon BWI 150-153 data center facility. Battery backups are a better alternative that would prevent Amazon from experiencing any interruption in service without significant impacts to public health and air quality. If battery backups are not available to provide all of the necessary backup power, then the Maryland Department of the Environment (MDE) should require Amazon to install selective catalytic reduction (SCR) technology on *all* of its backup generators. Lastly, MDE should consider the cumulative impacts that Amazon's 99 diesel generators will have on the Frederick area, which already has at least 19 proposed or constructed data centers. The issues addressed below are based on publicly available materials, including Amazon's Application, and online materials cited within this comment letter.

AMAZON'S APPLICATION

Amazon submitted an Air Permit Application in October 2024 to install and operate 99 diesel generators at its proposed BWI-150, BWI-151, BWI-152, and BWI-153 data center facility.[1] If

[1] Amazon BWI-150-153, Permit to Construct Application (Oct. 2024) [hereinafter "Application"].

granted, the Amazon data center campus would be classified as a synthetic minor source, provided it keeps NOx emissions below 24.3 tons per year.[2] Before issuing a final permit, MDE should adopt the recommendations in this comment letter.

Comment No. 1: If granted, the Application will allow local air quality to be degraded.

If granted, the Application will enable the operation of 99 diesel generators, raising concerns about local air quality and public health. Diesel generators generate many harmful pollutants,[3] including "greenhouse gases, particulate matter (PM), volatile organic compounds (VOCs), nitrous oxides (NOx), and sulfur dioxide (SO_2)."[4] This is partially why, to protect public health, the developed world relies primarily on large, utility-scale generation rather than distributed fossil generation.

Diesel generators' pollutants "can create smog and exacerbate respiratory conditions, like asthma, chronic obstructive pulmonary disease, and lung cancer, especially for children and older adults."[5] These localized problems occur because, unlike large generation sources, these generators do not have tall smokestacks to disperse the pollutants far above the air that residents breathe. This is particularly problematic because "[d]iesel generators tend to be located close to where people live, work, and attend school."[6] This is true of Amazon's proposed data center campus, which is located within five miles of eight schools.[7]

Marylanders need only look to California to see how allowing extended generator use can negatively impact communities. There, increasing wildfire-related outages have led many businesses and residents to rely more heavily on diesel backup generators.[8] Two districts in California have the diesel generator capacity to power about 15% of California's grid. New research shows that this proliferation of diesel generators will cause $136 million in annual health costs, "due to increases in mortalities, heart attacks, hospital visits and other adverse consequences."[9] These emissions will also occur during power outages, when low-income individuals are already vulnerable. For instance, during a power outage in the summer,

[2] Application at 3-2, PDF 8.
[3] Neil D. Strachan & Alexander E. Farrell, Emissions from Distributed Generation, Carnegie Mellon Elec. Indus. Center (2004), available at https://bit.ly/3ZVVq8N ("Uncontrolled diesel engines, such as those from emergency backup generators are not evaluated because previous research has already shown their emissions are very high and regulations typically preclude their use as baseload generation." *Id.* at 3 (Emphasis original)).
[4] M.Cubed, Diesel Back-Up Generator Population Grows Rapidly in the Bay Area and Southern California (2021), available at https://bit.ly/3LENog4 [hereinafter "Diesel Back-Up Generation Growth in California"].
[5] Diesel Back-Up Generation Growth in California.
[6] *Id.*
[7] According to Google Maps, Amazon's proposed data center is within 2 miles of Creating Memories Children's Learning Center, within 3 miles of Circle of Life Frederick, within 4 miles of Tuscarora Elementary School, and within 5 miles of Rays of Sunshine Bilingual Home Preschool/Daycare, Ballenger Creek Elementary School, Ballenger Creek Middle School, Valley Elementary School, Tuscahora High School.
[8] Business Wire, New Study Shows a Rapid Increase of Diesel-Fueled Backup Generators Across California (Oct. 6, 2021), available at: https://bwnews.pr/3yVGc7L.
[9] *Id.*

low-income individuals who live near Amazon's BWI-150-153 data center facility would be without air conditioning *and* would be faced with a decision of whether to open their windows and be exposed to unnecessarily high emissions or else keep their windows shut and bear the brunt of the heat.

Accordingly, the Sierra Club urges MDE to consider the broader cumulative impacts of granting this Application. We recommend that MDE conduct a more comprehensive health risk assessment, with special attention to how the proposed generators will impact local communities.

Comment No. 2: Batteries are a better, cleaner alternative that should be considered before the Application is granted.

Amazon does not need to use diesel generators to ensure there is no interruption in its service. Because Amazon does not intend to run its generators, apart from a short period of time while service is interrupted, battery backups combined with renewable energy would be a better, cleaner alternative for Amazon's BWI-150-153 data center campus that would protect the community's air quality.

Renewable energy coupled with battery storage is an investment, but it will pay for itself over time. Battery prices have reached record lows in recent years.[10] The payback period could also be shortened considerably when the alternative is considered: running diesel generators that have costly and often volatile fuel prices.[11] Battery storage would provide the same dispatchable firm capacity value as a diesel generator, and batteries are readily available and cost-competitive today. Some companies have been able to use renewable energy and battery storage to operate data centers without grid power usage and without interruptions in power supply.[12] Others, like Google, are using battery-based systems to replace their back-up diesel generators.[13]

From the information available in the Application, it does not appear that battery backup or renewable energy were even considered as viable alternatives, but they should be seriously evaluated before allowing diesel-fueled generators. For those reasons, we ask that MDE perform an alternative analysis that would study the feasibility of replacing Amazon BWI-150-153's diesel generators with batteries and/or on-site renewable energy and how that would impact emission limits.

---

[10] BloombergNEF, Lithium-Ion Battery Pack Prices See Largest Drop Since 2017, Falling to $115 per Kilowatt-Hour (Dec. 10, 2024), available at: https://about.bnef.com/blog/lithium-ion-battery-pack-prices-see-largest-drop-since-2017-falling-to-115-per-kilowatt-hour-bloombergnef/.

[11] Chris Isidore & Christopher Hickey, Gas Prices Had a Wild Ride This Year, Making 2023 Tough to Predict, CNN Business (Dec. 29, 2022), available at: https://cnn.it/3yWlpRE.

[12] Eaton, Eaton Provides Webaxys' New Eco-Designed Data Center With a Complete Energy Storage & Management System (Nov. 2016), available at: https://eaton.works/3JThlqz.

[13] Google, 24/7 Carbon-Free Energy: Powering up new clean energy projects across the globe (Apr. 21, 2022), available at: https://bit.ly/407WUwW.

Comment No. 3: In the alternative, the Final Permit should require Amazon to use more stringent emissions control technology on *all* of its diesel generators.

Sierra Club commends Amazon's decision to equip nearly all of its diesel generators with SCR technology as a notable step toward reducing NOx emissions in Maryland. SCR involves injecting ammonia into exhaust gas, where it reacts with NOx to form nitrogen and water, decreasing NOx emissions substantially. As shown in Table 1 below, Tier 2 diesel generators emit ten times more NOx pollution than Tier 4 generators or Tier 2 generators with SCR.

Table 1: Engine Technology Hierarchy[14]

Table 1: Engine Technology Hierarchy				
Type	Classification		Maximum Operating Service	NO_X Emissions
	State	**Federal**		
DIESEL ENGINES				
Tier II	Emergency	Emergency	Limit all operation to less than major source levels	18.0 lb/MW
Tier II + SCR*	Non-emergency	Emergency	Limit all operation to less than major source levels	1.8 lb/MW
Tier IV	Non-emergency	Non-emergency	Limit all operation to less than major source levels	1.8 lb/MW
NATURAL GAS ENGINES				
EPA Compliant	Emergency	Emergency	Limit all operation to less than major source levels	6.0 lb/MW
EPA Compliant	Non-emergency	Non-emergency	Limit all operation to less than major source levels	3.0 lb/MW
EPA + Controlled	Non-emergency	Non-emergency	Limit all operation to less than major source levels	0.3-1.5 lb/MW
NATURAL GAS SIMPLE CYCLE COMBUSTION TURBINES				
Low-NOx	Non-emergency	Non-emergency	Limit all operation to less than major source levels	0.3-0.5 lb/MW
Low-NOx with SCR	Non-emergency	Non-emergency	Limit all operation to less than major source levels	0.1 lb/MW
**Where SCR = Selective Catalytic Reduction system = an active air pollution control system that reduces NOx emissions; a Tier II engine equipped with an add-on SCR is sometimes referred to as a "Tier IV equivalent" engine*				

While the 92 2,750 kW diesel-fueled emergency generators will be equipped with SCR technology, the seven remaining generators will comply only with Tier 2 standards.[15] It is unclear from the Application why Amazon is not installing SCR on those seven generators. Tier 2 standards come up short on protecting air quality, especially for a project located within five miles of eight schools.

As mentioned in Comment No. 2 above, MDE can protect air quality for Marylanders, and specifically the children who attend the eight schools in the area, by requiring Amazon to install battery storage and renewables as its backup generation instead of diesel generators. To the extent Amazon cannot secure all of its backup capacity through renewables, MDE should require

[14] Va Dep't of Envtl. Quality, Data Center Air Permit Guidelines (Jan. 17, 2025), available at: https://www.deq.virginia.gov/home/showpublisheddocument/27424 [hereinafter "Virginia DEQ Guidelines"] at 2.
[15] Application at 2-1, PDF 6.

Amazon to install SCR on all of its generators, which would reduce harmful emissions and better protect the public and the communities surrounding this data center.

Virginia, the state with the largest number of data centers in the world,[16] recently released a guidance document recommending that data centers incorporate "controlled" generators (Tier 2 with SCR or Tier 4 emissions controls) into their backup generator mix.[17] For data centers with a large number of backup generators, Virginia suggested that "100% controlled generators" may be required.[18]

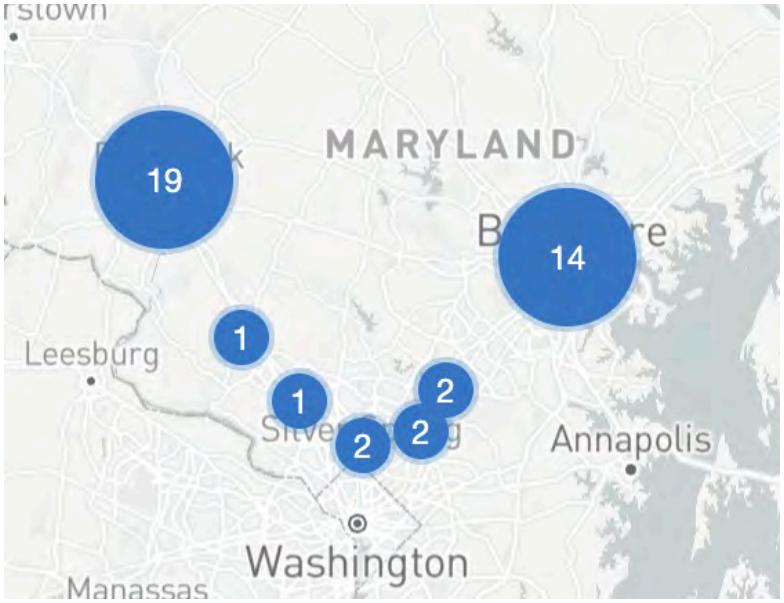
Maryland needs to act now to ensure the anticipated wave of data center development does not lead to unnecessarily high emissions, which could have catastrophic impacts on communities and schools. With numerous data centers expected to be built in the near future, it is crucial to implement stringent emissions controls from the outset. By requiring the use of SCR technology, Maryland can protect public health and the environment while accommodating the growing demand for data centers. Adopting these technologies proactively will help mitigate the impact of increased emissions and set a strong precedent for future developments in the region. While MDE should first require emission-free technologies like battery storage, if Amazon cannot meet 100% of its backup power needs through batteries and renewable energy, then Amazon should be required to install SCR on *all* of its backup generators to protect public health. With better technology available, there is no reason to permit greater emissions than necessary.

Comment No. 4: The Application should be considered in the larger context of Maryland's growing number of data centers.

The Application should not be considered in a vacuum. Rather, MDE should take a hard look at the number of data centers proliferating throughout Maryland. As Figure 1 below shows, Maryland currently has 41 data centers, 19 of which are in the Frederick area.

[16] Joint Legis. Audit & Rev. Comm'n, Data Centers in Virginia (2023), available at: https://jlarc.virginia.gov/landing-2024-data-centers-in-virginia.asp#:~:text=Northern%20Virginia%20is%20the%20largest,of%20capacity%20in%20the%20Americas.
[17] Virginia DEQ Guidelines at 3.
[18] *Id.*

Figure 1: Data Centers in Maryland[19]



While the emissions limits in the Application may not seem high, if every data center is allowed similar or higher emissions limits, the cumulative effects could be significant. For example, if 100 data centers in Frederick were allowed 99.9 tons per year of NOx emissions, they would be allowed to emit 9,990 total tons of NOx each year.[20] MDE should at least perform a cumulative impact analysis of the permitted emissions from all backup generators at all 19 data centers in the Frederick area so the public can be better informed about the cumulative effects of the diesel generator emissions, if they run at the maximum permitted levels during a power outage.

CONCLUSION

For these reasons, MDE should not issue a Draft Permit based on the Application as written. First, MDE should conduct a cumulative impact analysis of the emissions from the Amazon BWI-150-153 data center campus, combined with other permitted and pending diesel generators in the Frederick area, as well as an alternative impact analysis that considers replacing some or all of Amazon's proposed diesel generators with backup batteries or renewable energy. In the alternative, MDE should require the installation of SCR technology on *all* of Amazon's backup generators, in order to better protect air quality and public health.

Sierra Club appreciates the opportunity to comment on this Application.

[19] Data Ctr. Map, Maryland Data Centers (2025), available at: https://www.datacentermap.com/usa/maryland/.
[20] Most data center facilities set NOx emissions limits at 99.9 tpy to stay under the Title V major source level.

Sincerely,

_____/s/_____

Josh Tulkin, Director
Maryland Chapter of the Sierra Club
josh.tulkin@mdsierra.org

Maryland

Suna Sariscak -MDE- <suna.sariscak@maryland.gov>

Fwd: Sierra Club Comments on Amazon's Air Permit Application

Shannon Heafey -MDE- <shannon.heafey@maryland.gov> Mon, May 19, 2025 at 12:33 PM
To: Suna Sariscak <suna.sariscak@maryland.gov>, Janay Mendez -MDE- <janay.mendez@maryland.gov>

Comments

Shannon Heafey Public Participation Coordinator
Air Quality Permits Program, Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Boulevard, Baltimore, Maryland 21230
shannon.heafey@maryland.gov
410-537-4433

---------- Forwarded message ---------
From: **Sari Amiel** <sari.amiel@sierraclub.org>
Date: Mon, May 19, 2025 at 10:56 AM
Subject: Sierra Club Comments on Amazon's Air Permit Application
To: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Good morning,

Attached are Sierra Club's comments on Amazon's Air Quality Permit Application for its proposed BWI-150, BWI-151, BWI-152, and BWI-153 data center facility in Frederick County, Maryland.

Thank you in advance for your consideration of these comments.

Best,
Sari
--

Sari Amiel
Staff Attorney
Environmental Law Program
50 F Street NW, Eighth Floor
Washington, DC 20001
Pronouns: she/her/hers
301-807-2223
sari.amiel@sierraclub.org

--

Sierra Club Comments on Amazon BWI-150-153 - MDE Air Permit Application.pdf
462K

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Comment on Draft Permit-to-Construct, Amazon Data Services, Inc. (BWI 150 - 153) in Adamstown, Frederick County, MD

1 message

AC Malinak <acmalinak@gmail.com> Fri, Dec 19, 2025 at 4:41 PM
To: shannon.heafey@maryland.gov, suna.sariscak@maryland.gov

Maryland Department of the Environment
Air and Radiation Administration, Air Quality Permits Program
Re: Comment on Draft Permit-to-Construct, Amazon Data Services, Inc. (BWI 150 - 153) in Adamstown, Frederick County

December 19, 2025

To Whom It May Concern:

I submit this comment to oppose approval of the draft permit-to-construct for Amazon Data Services, as drafted. Approving this permit as drafted would allow one of the largest diesel generator installations in the state to operate under assumptions that are insufficiently protective of air quality in a nonattainment region and inconsistent with comparable permits on the same campus.

The permit relies on an untenable synthetic-minor framework; fails to aggregate related sources across the Quantum Frederick campus; and adopts assumptions about generator operation that are inconsistent with MDE's treatment of a comparable data center project (Aligned Data Centers) already located on the same campus.

1. Synthetic minor status improperly avoids Major Nonattainment NSR

The proposed installation of ninety-nine diesel engines (ninety-two rated at 2,750 kW plus additional units) has an unrestricted potential-to-emit that clearly exceeds the 25 tpy NOx major-source threshold applicable in this ozone nonattainment area. The permit even acknowledges that the 25 tpy NOx limit exists solely to preclude Major Nonattainment NSR and Title V applicability. Such a cap must therefore be demonstrably enforceable and achievable under all operating scenarios.

Instead, the proposed NOx cap (~24.3 tpy) coincides almost exactly with the ±3% accuracy limits of the fuel-monitoring systems relied upon for compliance. This narrow margin creates a substantial risk of exceedance during extended outages, increased testing, or operational deviations.

2. Failure to aggregate related facilities across the Quantum campus

The draft permit treats BWI 150 - 153 as a standalone premises without disclosing a defensible source aggregation analysis. This ignores common industrial purpose, physical adjacency, and coordinated development across the approximately 2,100-acre Quantum Frederick/Eastalco campus.

Aligned Data Centers has already received an air permit for approximately 167 diesel generators on another parcel within the same campus. Those emissions are excluded from MDE's analysis of Amazon's project. Under the Clean Air Act, phasing permits and subdividing parcels does not defeat adjacency or common control. Excluding Aligned's generators materially understates cumulative emissions and risks improper avoidance of Major NSR obligations.

MDE's own prior internal deliberations regarding data center clustering on the Quantum Frederick campus recognized that parcel subdivision and buffering alone do not resolve aggregation concerns, further underscoring the need for a transparent and defensible source determination here.

3. Disparate assumptions regarding "emergency-only" operation compared to Aligned

MDE's treatment of Amazon's generators diverges markedly from the assumptions used in Aligned's permit, despite the projects serving the same function, on the same campus.

Aligned's permit reflects very limited anticipated emergency operation, with fuel limits on the order of approximately 275,000 gallons per year for its generator fleet and explicit statements that historical outages are brief and infrequent. In contrast, Amazon's draft permit authorizes approximately 421,000 gallons of diesel fuel per year for generator operation at the Bauxite site (more than 50% higher than Aligned's allowance) despite similar claims of "emergency-only" use.*

Fuel limits are a direct proxy for runtime. Authorizing hundreds of thousands of gallons of diesel annually across a generator fleet signals an expectation of substantially greater operation than rare outages and minimal testing. The draft permit does not reconcile why Amazon requires such elevated fuel and runtime flexibility compared to Aligned, nor does it explain how this disparity is consistent with a synthetic-minor designation.

4. Emergency operation assumptions are unrealistic and unenforceable

A full-campus outage operating all engines for even 24 hours would emit multiple tons of NOx in a single day. A multi-day emergency could rapidly exhaust the annual cap. The permit contains no enforceable mechanism preventing exceedances during such events, nor does it explain how Amazon would simultaneously maintain data center continuity and synthetic-minor compliance.

A permit that depends on emergencies not occurring, or being artificially curtailed, is not credible.

5. Waiver pathways and monitoring gaps undermine enforceability

Although the permit limits routine testing to 10 hours per year per engine, it allows Amazon to petition for increased hours without mandatory public notice or comment, creating a pathway for post-permit emissions expansion. The permit further relies on SCR and DPF controls without continuous NOx monitoring, requires testing on only a subset of engines, and lacks mandatory shutdown or derating requirements when controls malfunction or degrade.

Requested Action

MDE should deny or suspend this permit pending:

1. A campus-wide aggregation and cumulative emissions analysis, including Aligned's permitted generators and other known, planned installations, with buildings already under construction by Rowan Digital;
2. Reevaluation of Major Nonattainment NSR applicability; and
3. Substantially strengthened permit conditions, including strict emergency-use limits tied to realistic outage data, prohibition on waiver-based expansion without public process, continuous NOx monitoring, explicit $PM_{2.5}$ and HAP caps, and enforceable control-failure provisions.

Required Agency Response

In responding to these comments, MDE should explicitly identify: (1) whether and how the Department compared Amazon's proposed generator runtime and diesel fuel allowances to those authorized under

Aligned Data Centers' Frederick air permit; (2) the factual basis for allowing Amazon materially higher annual diesel fuel throughput for generators claimed to be "emergency-only"; and (3) whether approval of this permit would set a precedent for similarly increased runtime allowances across the Quantum Frederick campus.

A.C. Malinak
Adamstown, Maryland

---

* Aligned Data Centers Frederick facility air permit authorizes generator operation with an annual diesel fuel limit of approximately 275,000 gallons, based on representations that emergency outages are rare and of short duration. Amazon Data Services' draft permit for the Bauxite site authorizes approximately 421,000 gallons of diesel fuel annually for generator operation. Both projects involve large-scale data center facilities with diesel backup generation on the Quantum Frederick campus, yet the permits reflect materially different assumptions regarding expected runtime and operational need.

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

amazon daata center

1 message

ALLISON MEDRANO <allisonmedrano@comcast.net> Mon, Dec 8, 2025 at 1:12 PM
To: "shannon.heafey@maryland.gov" <shannon.heafey@maryland.gov>

Good afternoon - I am writing to show my OPPOSITION to this data center being built in Adamstown - and quite frankly, anywhere in the state of Maryland. We have enough issues with high taxes and rising prices and do not need our energy costs to skyrocket and for our groundwater to be depleted for the "tech bros" and their latest endeavor to make life worse for us little folks. I would appreciate being sent any proposal documentation submitted by amazon and what the trade off is proposed for the state. In my opinion, it will not be an even trade. The state will lose while only a few will profit.

Thank you for your attention to this matter.

Sincerely, Allison Medrano
Ijamsville MD

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Re: Datacenters in Frederick County

1 message

Cecilia Plante <ceciliaplante@verizon.net> Wed, Dec 10, 2025 at 2:55 PM
To: "shannon.heafey@maryland.gov" <shannon.heafey@maryland.gov>

Hello Ms. Heafey,

I am a resident of Frederick, and I soundly oppose any permit for diesel fueled generators for the datacenters in Frederick County. It is ridiculous to me that we would put revenue over the health and safety of our own children and grandchildren. Diesel will put tons of pollutants into the air. I'm amazed that Amazon didn't consider this when they were submitting their initial plans. It seems like they know they have you now and expect that you have no other choice but to approve their request. That is clearly not the case. You always have a choice. They need to come up with a new and much less pollutant-oriented solution.

Please don't sell out our children and our health.

Thanks!

Cecilia Plante
1021 Holden Road
Frederick, MD 21701

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Adamstown Datacenter Diesel Generator Questions

1 message

Chris Campbell <cpcampbell5035@gmail.com> Tue, Dec 9, 2025 at 7:39 AM
To: shannon.heafey@maryland.gov, suna.sariscak@maryland.gov
Cc: Erin Previte Campbell <erin.previte@gmail.com>

1. Air Quality & Exposure Near the Elementary School

1. What are the predicted concentrations of PM2.5, NO_2, and diesel hazardous air pollutants (e.g., benzene, formaldehyde, acrolein) at the Carroll Manor Elementary School property line?

   Please provide modeled values for annual, 24-hour, 1-hour, and worst-case scenarios.

2. Did MDE require air dispersion modeling that includes “startup emissions,” which are significantly higher during the first minutes of generator operation?

   If so, please provide those results; if not, please explain why they were excluded.

3. How did the modeling account for meteorological conditions common in Adamstown (temperature inversions, low-wind days, valley effects)?

4. Has the modeling been independently reviewed by an external expert, and will MDE make that review publicly available?

---

2. Cumulative Impacts & Real-World Operation

5. Did the air modeling evaluate cumulative impacts of all 99 generators operating during an extended power outage, or only single-unit operation for testing?

6. If only testing scenarios were evaluated, what is the expected air quality impact if multiple generators must run simultaneously during emergencies?

7. Will MDE require additional modeling or safeguards for multi-unit operation, given that the site is adjacent to an elementary school?

8. How will MDE evaluate the cumulative effects of generator emissions combined with construction dust, backup truck traffic, and other sources already present in the area?

---

3. Generator Testing Policies & Exposure Mitigation

9. Will generator testing be prohibited during school hours, recess, and after-school outdoor programs?

10. Will testing be restricted to weekends or evenings to reduce exposure for children and staff?

11. Will MDE require a limit on how many generators may be tested simultaneously to prevent short-term spikes in pollution?

12. How will the facility ensure emissions-control systems (SCR & DPF) are functioning properly during every test?

---

4. Monitoring, Transparency & Accountability

13. Will the facility be required to install continuous or near-real-time air quality monitoring at the school and residential property lines?
14. Will this air-monitoring data be publicly accessible? If not, why?
15. What enforcement mechanisms will apply if real-world emissions exceed the modeled predictions or permit limits?

    For example: fines, shutdowns, or required corrective actions.
16. Will MDE require periodic third-party emissions verification to confirm that SCR and DPF systems maintain their effectiveness over time?

---

5. Alternatives & Site Planning

17. Did the applicant evaluate alternatives to diesel generators (natural gas, battery storage, fuel cells)?

    If so, please provide the analysis and rationale for not selecting lower-emission options.
18. Was relocating the generator yard farther from the elementary school evaluated?

    If yes, what prevented relocation? If not, why was this not considered?
19. What mitigation measures will be implemented if actual monitoring reveals higher pollution levels

    Given the proximity to an elementary school and residential neighborhoods, these questions require clear and public answers so the community can understand the full health, safety, and environmental impacts of this project.

Chris Campbell

Amazon Data Services, Inc. - Department's draft permit.

The Maryland Department of the Environment looks at each of the 100 proposed diesel generators individually and requires them to comply to emission restrictions and provide monitoring details, however the MDE does not look at the worst case senior and what are the effects to the surrounding environments and the health impact to the community.

This is the scenario that MDE needs to model and then address in its permit. The site losses power for three days the are very hot, humid and no wind. What are the total emissions form all of the generators running simultaneously for three days, what are the PM2.5, NOX, SOX and VOC levels in the air at 1000, 2500 and 5000 feet? It would be best if MDE required monitors to verify and report emission levels to the public.

MDE also needs to look at cumulative effects is the air for public safety. There is another permitted data center at the same site with 172 diesel generators. In this scenario, the power is down at the site, so in total there will be 273 diesel generators running.

A December 2024 study found that pollution from data center backup generators in Virginia could cause a total public health burden of $190 million to $260 million in surrounding states, "assuming the actual emissions are only 10% of the permitted level based on the historical reports and future projections."

The study — completed by researchers at the University of California, Riverside; California Institute of Technology; and Rochester Institute of Technology — found that Frederick County's health cost from Virginia's generators is about $4.6 million. What will the health impact of the community around this site be because of the diesel generators. MDE needs to model this also. You can use this study as a foundation for your estimates.

Feeling safe is a public health issue and the only way to make the community feel safe is to require monitoring and reporting. Monitoring is a very small expense compared to the overall cost of this project.

Dave Arndt

Co-Chair Maryland Legislative Coalition – Climate Justice Wing

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

RE: Notice of Scheduled Public Meeting for Amazon Data Service, Inc.

1 message

roseca2010@gmail.com <roseca2010@gmail.com> Fri, Dec 12, 2025 at 10:46 AM
To: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Hello Shannon,

Attached are my comments for the Amazon Data Service Inc.'s draft Air Quality Permit to Construct.

Also, does MDE have a permit application for storing diesel fuel on site and where can I find that? I am not familiar on how to find these permit applications on the MDE website.

Thank you and Kind Regards,

Dave

Dave Arndt

Co-Chair MLC Climate Justice Wing

From: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>
Sent: Tuesday, November 18, 2025 12:47 PM
To: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>
Subject: Notice of Scheduled Public Meeting for Amazon Data Service, Inc.

Dear Concerned Community Members:

This email is to notify you of a scheduled Public Permit Comment Meeting for the Amazon Data Service Inc.'s draft Air Quality Permit to Construct.

The Maryland Department of the Environment, Air and Radiation Administration (ARA) received a permit-to-construct application from Amazon Data Services, Inc. on October 29, 2024 for their proposed BWI-150, BWI-151, BWI-152 and BWI-153 data center facility including the installation of the following air pollution emitting equipment:
(1) Ninety-two (92) emergency generators, each equipped with a diesel fired engine, rated at 2,750-kilowatts, and each controlled by a selective catalytic reduction (SCR) system and a catalyzed diesel particulate filter;
(2) Six (6) emergency generators, each equipped with a diesel fired engine, rated at 750-kilowatts; and

(3) One (1) emergency generator, equipped with a diesel fired engine, rated at 250-kilowatts.
The data center facility will be located at 3250 Digital Drive in Frederick, Maryland 21703 in Frederick County.

A public meeting has been scheduled to receive public comment on the Department's draft permit. The meeting will be held on December 8, 2025 (inclement weather date: December 11, 2025) from 7:00 PM to 8:30 PM in the All Purpose Room of Carroll Manor Elementary School located at 5624 Adamstown Road, Adamstown, Maryland 21710.

The draft permit can be found under the title Alternate Public Review Procedures for Certain Sources Subject to New Source Performance Standards (NSPS) at this website:
https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx

Comments on this draft permit can be made at the meeting or submitted in writing through December 19, 2025. Comments should be sent to Shannon Heafey, Public Participation Coordinator at 410-537-4433 or via email at shannon.heafey@maryland.gov.

Shannon Heafey Public Participation Coordinator
Air Quality Permits Program, Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Boulevard, Baltimore, Maryland 21230
shannon.heafey@maryland.gov
410-537-4433

Amazon Data Services MDE Permit Application.pdf
28K

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Data Center Generators

1 message

Dave O <dave1humke@gmail.com> Sun, Dec 7, 2025 at 6:15 PM
To: shannon.heafey@maryland.gov

Dear Ms. Heafey,

I will not be able to attend tomorrows meeting, and I would like to add my 2 cents. I used to work at a small data center in Rockville, and we had two standby generators. They were small ones, but they still shook the building when they ran. The noise was quite significant. The thing is, you have to run the generators a few hours each month to insure functionality & readiness. I understand that one Amazon data center will need almost 100 generators, and that means 3 to 5 generators will be running each day. This is just for one data center. I also understand that this complex will be the biggest on the east coast, with a lot of data centers, and that means there will always be a significant number of generators running.

There really needs to be an alternative standby power source to generators, but at the very least can we make them install them underground, and insure the exhaust is scrubbed clean?

I have additional concerns concerning the water quality as I am on a well, and If the opportunity comes up, I would be glad to express them also.

I appreciate the opportunity to voice my concerns.

Thank You,

David Humke
6008A Adamstown Rd.
Adamstown Md. 21710
309-558-8627

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Re: The diesel generators noise will make the area near them uninhabitable.

1 message

Donald Condliffe <doncondliffe@gmail.com> Fri, Dec 5, 2025 at 10:18 AM
To: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

I used to prepare responses for the EISs and EIRs our teams prepared and I think that is a deflection not an actual response to the issues I raised. Feels like the fix is in.

On Fri, Dec 5, 2025, 10:14 AM Shannon Heafey -MDE- <shannon.heafey@maryland.gov> wrote:

> Good Morning Mr. Condliffe,
>
> Thank you for your comments. They will be added to the other formal comments of the draft Air Quality permit for Amazon Data Service, Inc.
>
> For future noise complaints, please note that the Department of the Environment is not responsible for noise issues. It is the county's responsibility to address noise complaints. Here are the web pages to register complaints:
>
> **City of Frederick**: https://www.cityoffrederickmd.gov/FormCenter/Police-37/Noise-Complaint-Form-137
> **Frederick County:** https://www.frederickcountymd.gov/8235/FCG-FixIT
>
> Thank you for your interest in the Air Quality permitting process,
> Shannon Heafey
>
> > Shannon Heafey Public Participation Coordinator
> > Air Quality Permits Program, Air and Radiation Administration
> > Maryland Department of the Environment
> > 1800 Washington Boulevard, Baltimore, Maryland 21230
> > shannon.heafey@maryland.gov
> > 410-537-4433

On Fri, Dec 5, 2025 at 12:53 AM Donald Condliffe <doncondliffe@gmail.com> wrote:

> Permitting so much noise pollution is absolutely unacceptable. The generator's intermittent extremely loud noise will be an excessive nuisance.
>
> There is not an adequate power supply available to run the data centers and that means the emergency generators will not be for emergency use only. They will have to run often, perhaps for most of the time. There is no adequate analysis of how much of the time they will run. It is an end run around the law because this is actually the installation of a 250MW diesel power plant that is improperly and deceitfully disguised as many separate small power plants supposedly not running often.
>
> Approval of this design for the site is wrong and harmful and should be overturned if allowed because approval will be improper

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Re: The diesel generators noise will make the area near them uninhabitable.

1 message

Shannon Heafey -MDE- <shannon.heafey@maryland.gov> Fri, Dec 5, 2025 at 10:13 AM
To: Donald Condliffe <doncondliffe@gmail.com>
Bcc: Janay Mendez -MDE- <janay.mendez@maryland.gov>

Good Morning Mr. Condliffe,

Thank you for your comments. They will be added to the other formal comments of the draft Air Quality permit for Amazon Data Service, Inc.

For future noise complaints, please note that the Department of the Environment is not responsible for noise issues. It is the county's responsibility to address noise complaints. Here are the web pages to register complaints:

City of Frederick: https://www.cityoffrederickmd.gov/FormCenter/Police-37/Noise-Complaint-Form-137
Frederick County: https://www.frederickcountymd.gov/8235/FCG-FixIT

Thank you for your interest in the Air Quality permitting process,
Shannon Heafey

Shannon Heafey Public Participation Coordinator
Air Quality Permits Program, Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Boulevard, Baltimore, Maryland 21230
shannon.heafey@maryland.gov
410-537-4433

On Fri, Dec 5, 2025 at 12:53 AM Donald Condliffe <doncondliffe@gmail.com> wrote:

> Permitting so much noise pollution is absolutely unacceptable. The generator's intermittent extremely loud noise will be an excessive nuisance.
>
> There is not an adequate power supply available to run the data centers and that means the emergency generators will not be for emergency use only. They will have to run often, perhaps for most of the time. There is no adequate analysis of how much of the time they will run. It is an end run around the law because this is actually the installation of a 250MW diesel power plant that is improperly and deceitfully disguised as many separate small power plants supposedly not running often.
>
> Approval of this design for the site is wrong and harmful and should be overturned if allowed because approval will be improper

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

HALT Air Quality Permit for 99 Generators until Carroll Manor Elementary is Safe!

1 message

Elyse Wilson <elysewilsonkhk@gmail.com> Sun, Nov 30, 2025 at 10:56 PM
To: shannon.heafey@maryland.gov, Council Members <councilmembers@frederickcountymd.gov>, Jessica Fitzwater <CountyExecutive@frederickcountymd.gov>, Kavonte <KDuckett@frederickcountymd.gov>, Mason <MCarter@frederickcountymd.gov>, Renee <RKnapp@frederickcountymd.gov>, Brad <BYoung@frederickcountymd.gov>, MC <MCKeegan-Ayer@frederickcountymd.gov>, Steve <SMcKay@frederickcountymd.gov>, Jerry <JDonald@frederickcountymd.gov>
Cc: Linda Everett <linda@edgedesigngroupllc.com>, Paula damico-Hollewa <pdhollewa@yahoo.com>, Ricky mom Kim <ghog22@verizon.net>, FRANK HOLLEWA <fjhollewa@gmail.com>, mhdague@gmail.com, PHM <phmichael@comcast.net>

Dear Shannon Heafey MDE, County Executive Fitzwater and Council Members,

I am writing to formally request that the **Draft Air Quality Permit for the 99 diesel generators** proposed for the Adamstown Data Center site be **withheld and not granted** until specific safety retrofits are completed at **Carroll Manor Elementary School.**

The nearest data center facility will be located just 1,974 feet from the school. Granting a permit for 99 industrial diesel generators—essentially a massive fossil fuel power plant—next to a school built in **1965** is negligent.

The 1965 wing of Carroll Manor possesses specific architectural vulnerabilities that make it incapable of protecting students from this volume of diesel particulate matter (PM2.5) and nitrogen oxides (NOx):

1. **Ground-Level Intake Vulnerability:** The 1965 classrooms rely on "Unit Ventilators" with intakes just feet above the ground. These will act as vacuums for the heavy diesel exhaust settling at ground level.
2. **Inability to Maintain Positive Pressure:** A 1965 building envelope is "leaky" and cannot maintain the positive pressure required to keep toxic fumes out during a generator test or fire event.
3. **Filtration Failure:** The existing HVAC infrastructure cannot handle the HEPA and Carbon filtration necessary to scrub the emissions from 99 generators.

We demand that the Air Quality Permit be denied until the following conditions are met:

- A **Dedicated Outdoor Air System (DOAS)** is installed to move all air intakes to the roof.
- A **Building Envelope Audit** confirms the school can be sealed against toxic plumes.
- **Carbon Filtration** is installed and operational.

You cannot permit 99 diesel generators to operate until you have proven the 60-year-old building next door can keep the exhaust out.

Sincerely,

Elyse Wilson Adamstown, MD

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Critical Safety & Emissions Monitoring Protocols and CMES Mitigation for MDE Draft Air Quality Permit Amazon Approval

1 message

Elyse Wilson <elysewilsonkhk@gmail.com> Fri, Dec 5, 2025 at 1:24 AM
To: shannon.heafey@maryland.gov
Cc: Steve <SMcKay@frederickcountymd.gov>, Jerry <JDonald@frederickcountymd.gov>, Hope Green <hope.green76@yahoo.com>, Gene Butler <rollbackfarmer@comcast.net>, Paula damico-Hollewa <pdhollewa@yahoo.com>, Linda Everett <linda@edgedesigngroupllc.com>

PROPOSED CONDITIONS OF APPROVAL for MDE-99 Draft Air Quality Permit Dec 8th Meeting

Tier 4 Compliant" is NOT the same as "Tier 4 Certified."

The air quality permit likely specifies "Tier 4 Compliant" because they are buying cheaper, older-standard (Tier 2) engines and bolting on aftermarket exhaust cleaners (SCR and DPF) to *simulate* Tier 4 performance. If these were true "Tier 4 Certified" engines, they would come from the factory meeting the standards without needing third-party add-ons.

Here is the breakdown of why this matters for your specific 92-generator facility and how those "add-on" sensors work (and often fail).

WHEREAS, the proposed facility utilizes "Tier 4 Compliant" retrofit generators which carry a known "Cold Start" risk (approx. 15-minute delay in pollution control activation); and

WHEREAS, the facility is located upwind of sensitive receptors including Carroll Manor Elementary School (1,974 ft) and high-density residential neighborhoods;

WE REQUEST the following conditions be legally attached to any Air Quality Permit or Site Plan approval:

1. MANDATORY FENCELINE MONITORING NETWORK

The Applicant shall install and maintain a **Reference-Grade Air Quality Monitoring System** (e.g., Aeroqual AQS 1 or Met One E-BAM) capable of real-time detection of Nitrogen Dioxide (NO_2) and Particulate Matter (PM2.5).

- **Placement Requirement:** Sensors must not be placed arbitrarily. They must be sited at "Critical Receptor" locations based on prevailing wind models, specifically:
  - **The "School Path" Monitor:** Located on the Northern/Northwestern perimeter facing **Green Hill Manor** and **Carroll Manor Elementary**.
  - **The "East Gate" Monitor:** Located at the property line abutting **5515B Moreland Rd** (Residence of Hope Green).
  - **The "Ballenger" Monitor:** Located at the property line abutting the **Ballenger Creek Pike** residence (Gene Butler).

2. INTEGRATED MASS NOTIFICATION SYSTEM (MNS)

Recognizing that standard industrial alarms (100dB) are inaudible at 2,000 feet due to distance attenuation:

- **Community Siren:** The facility shall install an **Outdoor Warning Siren** rated at **130 dB** to ensure audible warning coverage for the Elementary School playground and Green Hill Manor residents.
- **Digital Integration:** The monitoring system must feature SCADA/Relay integration to automatically trigger:
  - **School Alert:** A direct digital signal (SMS/Email) to the **Carroll Manor Elementary Administration** and **FCPS Risk Management** if NO_2 levels exceed 100 ppb.
  - **Community Alert:** A real-time integration with the **Green Hill Manor HOA** notification system.

3. "COLD START" MITIGATION & VISUAL SAFETY

To address the immediate risk to fence-line neighbors during the SCR warm-up phase:

- **Visual Strobe Proffer:** High-intensity **Visual Strobe Warning Lights** (Red/Amber) shall be installed at the fence line adjacent to Moreland Rd and Ballenger Creek Pike. These strobes must activate **5 minutes prior** to any generator engine start to allow residents to retreat indoors/close windows before the exhaust plume is released.

4. TRANSPARENCY & DATA ACCESS

- **Public Dashboard:** Real-time data from all fenceline sensors must be accessible via a **publicly available website**, updated every 60 seconds. Quarterly PDF reports are insufficient for community health decision-making.

JUSTIFICATION FOR RECORD:

- **Proximity:** The Elementary School is <2,000 ft from the emission source.
- **Technology Gap:** "Tier 4 Compliant" retrofits do not scrub emissions during the initial 15-minute warm-up, creating a "spike" risk that quarterly averages hide.
- **Wind Path:** Prevailing winds carry exhaust directly into Green Hill Manor; without directional monitoring, the community is unprotected.

5. SCHOOL SAFETY AUDIT & ENVELOPE VERIFICATION

NOTICE: The community rejects any "Shelter in Place" safety protocol that relies on the structural integrity of Carroll Manor Elementary without physical verification.

- **The Defect:** Carroll Manor Elementary is a **1965 structure**. While cosmetic renovations occurred in 2020 (Permit ~782k), these did not constitute a whole-building envelope retrofit. A 1965 building code standard is not equivalent to being airtight against a chemical plume or PM2.5 diesel particulate.
- **The Requirement:** Before final approval, the Applicant or County must fund and perform an independent **Blower Door Test** or **Envelope Tightness Verification** on the school.
- **MPIA Action: We have formally filed a Maryland Public Information Act (MPIA) request** with FCPS to obtain existing airtightness data. Since this legal request is pending, the County cannot proceed with approval until the safety data is produced and reviewed by the public. Approving the site plan while withholding safety data would be a violation of due process.

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

“Shelter in Place” Flaws at Carroll Manor Elementary & Upcoming MPIA Action

1 message

Elyse Wilson <elysewilsonkhk@gmail.com> Mon, Dec 1, 2025 at 12:46 PM
To: Council Members <councilmembers@frederickcountymd.gov>, Jessica Fitzwater <CountyExecutive@frederickcountymd.gov>, Steve <SMcKay@frederickcountymd.gov>, Jerry <JDonald@frederickcountymd.gov>, Mason <MCarter@frederickcountymd.gov>, MC <MCKeegan-Ayer@frederickcountymd.gov>, Renee <RKnapp@frederickcountymd.gov>, Brad <BYoung@frederickcountymd.gov>, Kavonte <KDuckett@frederickcountymd.gov>, "Pickett, Amy E" <amy.pickett@fcps.org>, Alex Lima -MDE- <alex.lima@maryland.gov>, shannon.heafey@maryland.gov
Cc: "Carpenter, Deborah" <dcarpenter@frederickcountymd.gov>, Planning Commission <PlanningCommission@frederickcountymd.gov>, Linda Everett <linda@edgedesigngroupllc.com>, Paula damico-Hollewa <pdhollewa@yahoo.com>, FRANK HOLLEWA <fjhollewa@gmail.com>, PHM <phmichael@comcast.net>, mhdague@gmail.com, Ricky mom Kim <ghog22@verizon.net>, "Jordan C. Ritter" <jordan.ritter@pmpbiz.com>, Nancy Keen <Nancy@vanguardmgt.com>

Dear County Executive Fitzwater and Council Members,

I am writing regarding the proposed data center development and a critical safety oversight at Carroll Manor Elementary.
Your safety plans rely on "Shelter in Place" protocols, assuming the school can effectively seal out diesel fumes. I remind you that Carroll Manor is a 1965 structure. It was not built to be airtight, and the cosmetic renovations in 2020 (Permit ~782k) were not a whole-building envelope retrofit.

We anticipate the response will be that the "building meets code." Meeting a 1965 building code is not the same as being airtight against a chemical plume.

Therefore, I am putting the County on notice:

We do not accept verbal assurances of safety. I am simultaneously filing a formal Maryland Public Information Act (MPIA) request with FCPS to obtain the specific air-tightness verification data for this school.

If the County has not performed a Blower Door Test or Envelope Tightness Verification to prove this specific building can physically block PM2.5 particulates, you cannot approve this project. A "Shelter in Place" order in a leaky building is a failure of duty.

The is also due to the upcoming meeting Dec 8th at 7 pm at CMES of the Draft Air Quality Permit off 99 Diesel Generators.

https://mde.maryland.gov/programs/permits/AirManagementPermits/Documents/Public-Review/Alt%20NSPS/DraftAirQualityPermittoConstruct-Amazon.pdf

The former permit of the 168 Aligned Data Center Diesel Generators were prior Adamstown having Transparency which happened in 2 meetings Sept 2025.

The size of the 99 Diesel Generators:

https://www.cat.com/en_US/products/new/power-systems/electric-power/diesel-generator-sets/117341.html

Respectfully,

Elyse Wilson
Adamstown, MD

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

OPPOSITION to Amazon Data Services Permit - 1,974 ft from "1965" Carroll Manor Elementary & 500 ft from Homes

1 message

Elyse Wilson <elysewilsonkhk@gmail.com> Fri, Nov 28, 2025 at 6:09 PM
To: shannon.heafey@maryland.gov, Alex Lima -MDE- <alex.lima@maryland.gov>
Cc: Jessica Fitzwater <CountyExecutive@frederickcountymd.gov>, governor.mail@maryland.gov, "Folden, William Senator" <william.folden@senate.maryland.gov>, "Pippy, Jesse Delegate" <jesse.pippy@house.maryland.gov>, "Lewis Young, Karen Senator" <karen.young@senate.maryland.gov>, Renee <RKnapp@frederickcountymd.gov>, "Carpenter, Deborah" <DCarpenter@frederickcountymd.gov>, JKPeterson@frederickcountymd.gov, "Redmond,Lee" <LRedmond@frederickcountymd.gov>, Jerry <JDonald@frederickcountymd.gov>, STEVE MCKAY <stevemckay@comcast.net>, Hope Green <hope.green76@yahoo.com>, Linda Everett <linda@edgedesigngroupllc.com>, Paula damico-Hollewa <pdhollewa@yahoo.com>, FRANK HOLLEWA <fjhollewa@gmail.com>, Gene Butler <rollbackfarmer@comcast.net>, firefighterdeb53@aol.com, joshuaheebner@comcast.net, talborg@rowan.digital, Nancy Keen <Nancy@vanguardmgt.com>, "Jordan C. Ritter" <jordan.ritter@pmpbiz.com>

Dear Ms. Heafey and Alex Lima,

I am writing as a resident of Adamstown to formally oppose the approval of the draft air quality permit for Amazon Data Services, Inc. regarding the proposed facility at 3250 Digital Drive.

The application requests the installation of 99 diesel-fired emergency generators, representing over 250 megawatts of diesel power. While the technical specifications may meet minimum regulatory standards in a vacuum, the specific site location creates an unacceptable risk to public health that must be addressed before any permit is issued.

1. **Immediate Threat to Residential "Sensitive Receptors" (500 Feet)**

This facility is sited just 500 feet from existing residential homes. Residents in this "Immediate Impact Zone" include vulnerable populations, such as the elderly and young children, whose respiratory health is most at risk from diesel particulate matter (PM2.5) and Nitrogen Oxides (NOx). At this short distance, pollutants do not have sufficient space to disperse before entering our living spaces. To permit this scale of diesel infrastructure this close to families is a direct threat to public health.

2. **Proximity to Carroll Manor Elementary (1,974 Feet)**

Furthermore, the facility is less than 0.4 miles from Carroll Manor Elementary School. Students are at risk of exposure to dispersion plumes, particularly given the valley topography of Adamstown which can trap pollutants near the ground during temperature inversions.

3. **The "Project Holiday" Precedent is Invalid**

I anticipate the argument that because Aligned Data Centers was previously approved for similar equipment, this permit should follow suit. I strongly reject this logic. The Aligned approval occurred during the "Project Holiday" era—a period defined by non-disclosure agreements and lack of transparency. The community's silence during those previous hearings was a result of being kept in the dark, not consent. You cannot use a decision made during a period of secrecy to justify endangering our community again. Now that the cumulative impact of over 1,000 generators is clear, the standard for safety must be raised, not repeated.

Conditions for Approval

Therefore, I demand that MDE deny this permit unless the following protective measures are mandated as Conditions of Approval:

- **Mandatory Fence-Line Monitoring Network:** Amazon must install a network of real-time air quality sensors (PM2.5 and NOx) along the perimeter of the facility facing the residential homes and the school.
- **Real-Time Public Alert System:** These sensors must trigger an immediate public alert (text/email) if emissions cross the property line at unsafe levels, allowing residents to shelter in place.
- **Protective Retrofits for the School:** Amazon must fund a "Building Envelope Commissioning" for Carroll Manor Elementary, including a Blower Door Test and the installation of Positive Pressure HVAC systems with MERV-16 and Carbon filtration to prevent diesel ingress.
- **Residential Mitigation Fund:** A fund must be established to provide HEPA/Carbon air scrubbers for homes within the immediate 500-1,000 ft radius.

We cannot rely on theoretical modeling that claims this is safe. We need real-time monitoring and physical protection for the families and students living and learning in the shadow of these exhaust stacks.

A 60-year-old school lacks the modern infrastructure necessary to protect students from industrial diesel emissions! While we acknowledge that this specific Draft Air Quality Permit covers **99 generators**, the cumulative reality is far more alarming. Once all phases are complete, over 1,000 diesel generators will be operating in the immediate vicinity of our residents and the school.

Sincerely,

Elyse Wilson

Adamstown, MD Resident

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

MPIA Request: Air Quality & Envelope Tightness Records for Carroll Manor Elementary

1 message

Elyse Wilson <elysewilsonkhk@gmail.com> Mon, Dec 1, 2025 at 12:28 PM
To: PIARequests@fcps.org
Cc: Nancy Keen <Nancy@vanguardmgt.com>, "Jordan C. Ritter" <jordan.ritter@pmpbiz.com>, Paula damico-Hollewa <pdhollewa@yahoo.com>, "Pickett, Amy E" <amy.pickett@fcps.org>, Linda Everett <linda@edgedesigngroupllc.com>, Ricky mom Kim <ghog22@verizon.net>, Elizabeth Law <bettybob1758@gmail.com>, shannon.heafey@maryland.gov, Alex Lima -MDE- <alex.lima@maryland.gov>, Council Members <councilmembers@frederickcountymd.gov>, Planning Commission <PlanningCommission@frederickcountymd.gov>, Jessica Fitzwater <CountyExecutive@frederickcountymd.gov>, Steve <SMcKay@frederickcountymd.gov>, "Carpenter, Deborah" <dcarpenter@frederickcountymd.gov>, "Josh Mitchell, P.E." <Jmitchell@millerbrothersinc.com>, Jerry <JDonald@frederickcountymd.gov>, Kavonte <KDuckett@frederickcountymd.gov>, Mason <MCarter@frederickcountymd.gov>

To the Custodian of Records:

Under the Maryland Public Information Act (MPIA), Title 4 of the General Provisions Article, I am requesting copies of the following public records regarding Carroll Manor Elementary School (Adamstown, MD):

- Building Envelope Testing: Any records of "Blower Door Tests," "Envelope Tightness Verification," or "Air Infiltration Testing" performed on the school building from 2015 to the present.

- HVAC & Damper Audits: Maintenance records or engineering reports detailing the functionality and seal-tightness of the school's fresh air intake dampers and HVAC economizers, specifically regarding their ability to fully close during a "Shelter in Place" event.

- Indoor Air Quality (IAQ) Reports: Any IAQ assessments or engineering reports from the 2020 renovation that specifically reference "building envelope leakage," "infiltration rates," or "PM2.5 mitigation."

If these records do not exist, please provide a written statement confirming that FCPS possesses no data verifying the airtightness of the Carroll Manor Elementary building envelope.

I request a waiver of all fees as this disclosure is in the public interest and relates to the safety of students facing a proposed industrial development.

I have copied Shannon Heafey with MDE on this request. The urgency of this request is due to the Draft Air Quality MDE Meeting on December 8th at 7 PM, where a permit for 99 diesel generators located only 1,974 feet from Carroll Manor Elementary School (CMES) is being discussed.

@ShannonHeafey We urge you not to approve the Air Quality Permit until the airtightness of the school building has been verified. Without this verification, there is a very high risk of diesel generator pollution entering the school, potentially compromising the safety of teachers, children, and other workers.

https://mde.maryland.gov/programs/permits/AirManagementPermits/Documents/Public-Review/Alt%20NSPS/DraftAirQualityPermittoConstruct-Amazon.pdf

To provide clarity on the scale of the proposed development, Councilman Steve McKay and Deborah Carpenter of the Planning Commission email indicated that the diesel generators are of a significant size, of the one described here which would be 99 Diesel Generators with Amazon/Rowan plus the previously approved 168 Diesel Generators with Aligned.

https://www.cat.com/en_US/products/new/power-systems/electric-power/diesel-generator-sets/117341.html

A picture of one such diesel generator is included in the attached Draft Air Quality Permit, which specifies 99 such generators:

Please note that the majority of the broader Adamstown community was unaware of the Aligned Data Center Draft Permit for 168 diesel generators at the end of 2024 due to a lack of transparency at that time. This issue was addressed in two community meetings held in September 2025 to foster greater transparency. Since the last one passed mostly without the public awareness.

Sincerely,
Elyse Wilson
2799 Decatur Drive
Adamstown, MD
3016394072

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Re: FORMAL COMMENT: Mandatory Requirements & School Safety Retrofits for Amazon BWI-150/153

1 message

Shannon Heafey -MDE- <shannon.heafey@maryland.gov> Tue, Nov 25, 2025 at 9:30 AM
To: Elyse Wilson <elysewilsonkhk@gmail.com>

Dear Ms. Wilson,

Thank you for your comments for the record for the Amazon Data Services, Inc.'s Air Quality Permit to Construct. These will be added to the formal comment record.

Sincerely,
Shannon Heafey

Shannon Heafey Public Participation Coordinator
Air Quality Permits Program, Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Boulevard, Baltimore, Maryland 21230
shannon.heafey@maryland.gov
410-537-4433

On Mon, Nov 24, 2025 at 11:02 PM Elyse Wilson <elysewilsonkhk@gmail.com> wrote:

> Re: Draft Permit to Construct for Amazon Data Services, Inc.
> Location: 3250 Digital Drive, Frederick, MD 21703 Premises No: 021-0809
>
> Dear Ms. Heafey,
>
> I am writing to formally submit technical comments regarding the Draft Air Quality Permit to Construct for the Amazon Data Services facility (BWI-150 through BWI-153).
>
> This facility plans to install **99 diesel generators** (approx. 257 MW) within **500 feet of residential homes** and **1,900 feet of Carroll Manor Elementary School**.
>
> CRITICAL CONTEXT: THE SCHOOL VINTAGE

Carroll Manor Elementary was built in 1965. It is an aging structure with likely building envelope inefficiencies (leaky windows, older insulation, and non-HEPA HVAC systems). Standard air dispersion modeling assumes receptors are protected by modern building envelopes. That assumption is false for this school.
Therefore, MDE cannot legally approve this permit unless the following **MANDATORY** requirements and **MITIGATION** measures are met.

1. MANDATORY MITIGATION: THE "SEAL AND SAFE" SCHOOL RETROFIT

Because the receptor (the School) is a 1965 structure incapable of filtering out fine Diesel Particulate Matter (DPM), MDE must condition this permit on Amazon funding a "Seal and Safe" retrofit for Carroll Manor Elementary and make sure Creative Memories Children's Learning DayCare Center is safe for the exposure to ensure no adverse health impacts on students.

This Retrofit Package must include:

1. **Positive Pressure HVAC:** Installation of systems that maintain positive pressure inside the school to prevent outside exhaust plumes from seeping in during generator testing.
2. **MERV-13+ / HEPA Filtration:** Upgrading all air intakes to hospital-grade filtration to capture DPM.
3. **Building Envelope Sealing:** Replacement or sealing of 1965-era windows and doors facing the data center to prevent "fugitive infiltration" of NOx and particulates.
4. **Indoor Air Quality Monitors:** Installation of real-time monitors *inside* the classrooms to verify that the retrofit is working.

2. MANDATORY TECHNICAL “PASS/FAIL” REQUIREMENTS

A. The 1-Hour NO2 Safety Standard (The 500-Foot Test)
Federal law requires compliance with the 1-Hour National Ambient Air Quality Standard (NAAQS) for Nitrogen Dioxide (NO2).

- **The Mandate:** Diesel engines release a massive spike of NO2 during "Cold Start" (the first 15 minutes). MDE must verify via AERMOD modeling that simultaneous testing of generators will not violate the 1-Hour NO2 safety limit at the **residential property line (500 ft)** or the **School**.
- **The Demand:** If the model shows an exceedance during a "Cold Start," MDE **must deny** the permit or strictly prohibit simultaneous testing.

B. Toxic Air Pollutant (TAP) Compliance

- **The Mandate:** MDE must certify that the cancer risk from Diesel Particulate Matter (DPM) at the **500-foot residential boundary** is below the allowable screening level (1 in 100,000).
- **The Demand:** We require proof that the proposed "Catalyzed Diesel Particulate Filters" (CDPF) are efficient enough to protect residents at this close range.

C. "Synthetic Minor" Enforceability (The 25-Ton Cap)

- **The Mandate:** With 99 generators, MDE must demonstrate the mathematical proof that the proposed run-time limits guarantee emissions will *never* exceed 25 tons.
- **The Demand:** If the calculation is within 5% of the limit (e.g., 24 tons), MDE must require **Continuous Emissions Monitoring (CEM)**.

D. Mandatory Aggregation (Single Source Determination)

- **The Demand:** MDE must perform a Single Source Determination for the *entire* planned Bauxite campus (Phases 1, 2, and 3). Approving Phase 1 as a "Minor" source while ignoring the cumulative impact of future phases is illegal segmentation.

3. EQUIPMENT & RELIABILITY REQUIREMENTS

A. Certified Tier 4 Final vs. Retrofits

- **The Demand:** MDE must mandate **Certified Tier 4 Final engines** (factory-integrated). Retrofit "bolt-on" systems are prone to failure. Residents at 500 feet cannot afford a filter failure.

B. Mandatory CPMS (Continuous Parametric Monitoring)

- If retrofits are used, you **must mandate** a Continuous Parametric Monitoring System (CPMS) to log catalyst temperature and back-pressure every minute.

4. REQUIRED SPECIAL CONDITIONS: "THE ADAMSTOWN ALERT SYSTEM"

We demand the following **Special Conditions** be written into the final permit:

Condition 1: Dual-Point Fence-Line Monitoring
Amazon must install industrial-grade Air Quality Monitors (NOx and PM2.5) at:

1. The property boundary closest to the **residents (500 ft)**.
2. The property boundary facing **Carroll Manor Elementary**.

Condition 2: The "Fire Dept" Central Link

- These monitors must transmit **real-time data** to a dashboard accessible by the **Carroll Manor Fire Company (Station 14)**.
- **Trigger Point:** If pollution levels exceed the "Unhealthy for Sensitive Groups" AQI threshold, an automatic alert must be sent to Station 14.

Conclusion
You are proposing to place a massive industrial pollution source next to a 1965 school that lacks modern defenses. Unless Amazon funds the "Seal and Safe" Retrofit and agrees to Real-Time Monitoring, this permit puts children at risk and must be

denied.

Sincerely,

Elyse Wilson
2799 Decatur Drive
Adamstown, MD 21710

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Diesel Generators Near Carroll Manor Elementary School in Adamstown

1 message

Emily Gibson <emilycgibson@gmail.com> Fri, Nov 21, 2025 at 9:28 AM
To: shannon.heafey@maryland.gov

Good Morning,

I am the parent of two Carroll Manor students and was already deeply concerned about the data center being built much too close to their school building. I am horrified to learn that massive industrial diesel generators are planned less than 2,000 feet from our elementary school.

While the permit hearing focuses on buildings further away, the complex itself encroaches dangerously close to our classrooms.

The Facts:

- 1,974 FEET: The distance from the nearest Data Center Building (Bauxite 2) to our school.
- 1,997 FEET: The distance from the massive electrical substation to our school.
- 1965: The year Carroll Manor Elementary was built. It has "leaky" windows and outdated ventilation not designed to filter out industrial diesel exhaust.

Diesel exhaust contains PM2.5 (fine particulate matter). Because our school isn't airtight, if a cloud of exhaust surrounds the building, it will "breathe" it in—exposing our children to asthma triggers and pollutants.

I am asking that the MDE consider student SAFETY:

1. Tier 4 Final Generators: Amazon must use the cleanest engines available (90% less pollution) near our kids.
2. School Protection: Fund a "Seal and Safe" retrofit for Carroll Manor (Positive Pressure HVAC & HEPA filtration).
3. Real-Time Air Monitors: Install monitors on the playground with a public app for parents.
4. Cumulative Study: MDE must study the combined pollution of ALL buildings, not just the one furthest away.

Thank you,
Emily Gibson

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

ETF Comments on Permit To Construct Application of Amazon Data Services Inc BWI 150-BWI 153 Air permit

1 message

Allen Schaeffer <aschaeffer@enginetechforum.org> Tue, Dec 9, 2025 at 12:05 PM
To: "shannon.heafey@maryland.gov" <shannon.heafey@maryland.gov>
Cc: Allen Schaeffer <aschaeffer@enginetechforum.org>, Josie Rocha <jrocha@enginetechforum.org>

Ms. Heafy,

Attached please find comments regarding the Amazon Data Services Inc permit application BWI 150-BWI 153.

Please contact me if you have any questions

Allen

Allen Schaeffer

Executive Director

Engine Technology Forum

5300 Westview Dr. # 308

Frederick MD 21703

aschaeffer@enginetechforum.org

www.enginetechforum.org

301-514-9046 mobile

301-668-7230 office

Engine Technology Forum

ETF Comments to MDE on Amazon Data Services Permit Application Dec 2025.pdf
133K

December 8, 2025

Ms. Shannon Heafey
Public Participation Coordinator
Maryland Department of the Environment
Air and Radiation Division
1800 Washington Blvd
Baltimore MD 21230

In Re: Comments on the Permit to Construct Application of Amazon Data Services Inc. BWI-150-BWI-153 Air Permit

Ms. Heafey,

With regards to the above captioned item, we submit the following comments regarding the permit-to-construct application for Amazon Data Services proposed data center facility installation of emergency generators located at 3250 Digital Drive in Frederick County Maryland.

The Engine Technology Forum is a national industry association located at 5300 Westview Drive # 308, Frederick MD. We represent manufacturers of advanced engines and equipment including companies that manufacture backup power systems. More information on us is available at www.enginetechforum.org. Our offices are located approximately 6.5 miles from the subject site

We have reviewed the above captioned permit and conditions for the Permit to Construct and offer the following comments:

1. Data centers are an increasingly important aspect of modern life, providing storage and access to vital information, whether for communications, banking and commerce or entertainment for a multitude of uses in the local and state community and beyond.

2. Backup generators are a critical aspect of ensuring maximum uptime for data centers. Diesel generators are able to rapidly respond to loss of grid power and carry full electrical loads within seconds. Their selection for use in this instance is appropriate and in line with industry norms. No other technology is able to deliver the combination of power density, load-carrying capacity, and rapid response time as a diesel generator like these specified in the permit application.

3. Aside from readiness testing and required maintenance tests, backup generators by their very nature are activated only during electric grid outages. The fact that most of the time the generators are not running but standing by minimizes the impact on air quality, the environment, and the community.

4. The proposed permit establishes considerable and stringent requirements for the performance, testing and recordkeeping of all installed generators at the subject site. For example, limiting maintenance checks and readiness testing to no more than 10 hours per generator over a 12 month period, unless able to demonstrate premises wide emissions of nitrogen oxides are less than 25 tons per year. These requirements will help ensure that impacts from the operation of the generators on the surrounding community are minimized.

5. The largest population of generators covered in the proposed air permit is predominantly the newest generation of advanced diesel technology generators and emission control systems (selective catalytic reduction (SCR) systems) that are proven to achieve near zero emissions. In some parts of the country, the use of this grade of advanced diesel generators could generate electricity with fewer overall emissions than a predominantly coal-fired power grid.

6. We are pleased to see that the permit includes references to renewable diesel fuel. Renewable diesel fuel is a proven drop-in replacement for traditional diesel fuel. It is produced from a wide range of feedstocks including cooking oil, animal tallow and soybean oil. It's use up to 100 percent blends is endorsed by all heavy-duty engine manufacturers that supply the backup power systems used in the data center market. It provides another option for enhancing the sustainability of data center operations.

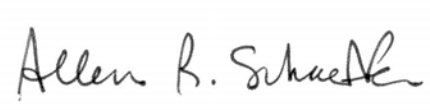
   If available and desired by the permittee, its use can help further reduce emissions of carbon and other exhaust constituents from the operation of the generators.

In conclusion, MDE has proposed significant and stringent conditions for the construction, testing, and use of diesel generators at the Amazon Data Services location on Digital Drive in Frederick MD.

We believe that these conditions will ensure effective back up power systems for the data center while also minimizing the impact on the community.

We support approval of the permit without changes.

Thank you for considering these comments. Please contact me at aschaeffer at enginetechforum dot org if you have any questions.



Allen Schaeffer
Executive Director

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Diesel vs Natural Gas backup generation for data centers

1 message

Hope Green <hope.green76@yahoo.com> Thu, Dec 18, 2025 at 12:29 PM
To: Jessica Fitzwater <countyexecutive@frederickcountymd.gov>, Council Members <councilmembers@frederickcountymd.gov>, Planning Commission <planningcommission@frederickcountymd.gov>
Cc: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>, "william.folden@senate.state.md.us" <william.folden@senate.state.md.us>, Jesse Delegate Pippy <jesse.pippy@house.maryland.gov>, Office of Senator Karen Lewis Young <karen.young.ind@senate.state.md.us>, April Delegate Miller <april.miller@house.maryland.gov>

FYI, there is a natural gas line across the street that supplies Manor Village. The data center MANTRA "Speed and Scale", and cheaply as possible. This mantra does not consider environmental and human harm. WHY hasn't a "hybrid" backup system of batteries and natural gas been considered before permit approval of 99 more polluting machines adding to the 168-172 that have already been approved?

www.e-finity.com

Natural Gas vs. Diesel Generators: What's Better for Data Center Backup Power?

May 14, 2025

Data centers operate under tight uptime requirements, often aiming for no more than a few minutes of downtime per year. To meet these demands, every aspect of infrastructure needs to be engineered for resilience, including backup power. **While diesel generators have long been the default choice for emergency power systems, natural gas generators and microgrids are becoming a serious alternative.**

Choosing between natural gas and diesel isn't just a matter of cost or convenience. It requires evaluating performance under real-world conditions, regulatory expectations, fuel logistics, environmental impact, and long-term operational strategy. Below is a side-by-side breakdown of the two options as they relate specifically to data center environments.

Fuel Storage and Supply Chain

Diesel

Diesel fuel must be stored on-site in large tanks, which poses a few challenges. First, there's a finite amount of fuel available, typically enough for 24 to 72 hours of runtime unless deliveries can be made. Second, diesel has a limited shelf life and may degrade without proper treatment, requiring regular testing and maintenance. In extended outages or disaster scenarios, resupplying fuel can become difficult.

Natural Gas

Natural gas is delivered continuously through underground pipelines, which are far less vulnerable to weather and logistics issues. This means no need for onsite storage and no concerns about refueling during long-duration outages. However, reliability depends on the strength and redundancy of the local gas utility infrastructure. In some regions, dual-fuel systems or compressed gas storage can mitigate this risk.

Emissions and Environmental Impact

Diesel

Diesel generators emit high levels of nitrogen oxides (NOx), particulate matter, and greenhouse gases. Because of this, they are heavily regulated in many states and municipalities. Facilities may be limited in how many hours they can operate diesel systems per year unless they install costly emissions controls.

Natural Gas

Natural gas burns cleaner than diesel, producing lower levels of NOx, carbon monoxide, and CO_2 per unit of energy. Many natural gas systems qualify as low-emission or ultra-low-emission solutions, making them easier to permit and operate for extended durations. This makes them a better fit for organizations with sustainability goals or ESG reporting requirements.

Maintenance and Lifecycle Costs

Diesel

Diesel generators require regular testing, fuel quality checks, and more frequent maintenance. Wet-stacking, fuel polishing, and tank inspections add to the cost of ownership. While initial installation costs may be lower, the long-term upkeep can become expensive, especially in environments where they are called on more than a few times per year.

Natural Gas

Natural gas generators, particularly microturbines, have fewer moving parts and longer maintenance intervals. They don't suffer from fuel degradation issues and often include predictive maintenance features when paired with modern control systems. Over time, the total cost of ownership is often lower, especially when used as part of a hybrid or grid-supporting strategy.

Permitting and Regulatory Pressure

Diesel

In areas with strict environmental laws, diesel generators can be difficult to permit. Standby use is typically allowed, but limitations are placed on runtime and testing hours. Some regions also require emissions mitigation equipment, adding to both installation and ongoing compliance costs.

Natural Gas

Because of their cleaner emissions profile, natural gas systems face fewer regulatory hurdles. They're often allowed to operate longer, and in some cases can be used not just for backup, but for peak shaving or participation in grid programs. This added flexibility can improve the ROI of the power system as a whole.

Use Case Flexibility

Diesel

Diesel generators are primarily used for backup only. Running them for extended periods is costly and usually not permitted. They are best suited for applications where uptime is critical, but usage is minimal.

Natural Gas

Natural gas systems can be used for both backup and daily operations. In microgrid configurations, they can provide baseload power, support critical loads, and enable grid independence. This flexibility makes them ideal for facilities looking to offset utility rates, support sustainability goals, or add on-site generation capabilities.

Which Is Better Depends on the Application

For data centers that require high-speed backup and already have infrastructure in place for diesel, maintaining those systems might make sense in the short term. **But for operators planning long-term strategies that include sustainability, cost control, and fuel resilience, natural gas microgrids are increasingly difficult to ignore.**

WWW.PACIFICOENERGY.COM

The right generator keeps servers humming, customers happy, and reputations intact. But **should you stick with tried-and-true diesel or pivot to cleaner natural gas?** Let's break down the trade-offs so you can choose with confidence.

Backup Power Basics: Where Generators Fit

Even with robust UPS banks and lithium-ion storage, batteries buy you minutes, not hours, of runtime. Generators bridge that gap, providing sustained power until the grid returns or workloads can be migrated. In most large-scale data centers, gen-sets start automatically when UPS voltage sags, then feed critical loads until mains power stabilizes. So, the choice of generator has direct implications for uptime, operating budgets, and regulatory compliance.

Meet the Contenders: Diesel vs. Natural-Gas Generators

When you're comparing backup options for a large-scale data center, diesel and natural gas quickly rise to the top. Both technologies have logged countless hours in mission-critical environments, yet they differ in several meaningful ways:

Start-Up Speed and Load Acceptance

Diesel engines are legendary for their near-instant cold starts—often hitting full output in under ten seconds and accepting large load steps without a stutter. **Natural-gas** units have closed the gap with modern controls and pre-lube systems, but they usually need 15–30 seconds to ramp up. If your design criteria demand sub-ten-second transfer times, diesel typically wins.

Fuel Source and Logistics

Diesel relies on on-site storage tanks that can be topped off by truck, giving you autonomy if the local utility falters. **Natural gas is delivered via underground pipelines, eliminating tanker traffic and on-site fuel management, but tying you to utility infrastructure. Some operators install compressed natural gas (CNG) or LNG storage for extra resiliency.**

Capital Expense

Up front, diesel is almost always cheaper. Engines, enclosures, and supporting systems are simpler and less expensive than comparable natural-gas packages,

which can run 20–30 percent higher due to spark-ignition hardware and exhaust-after-treatment.

Emissions Profile

Environmental regulations are increasingly strict, and this is where natural gas shines.

Compared with a Tier 2 diesel set, a modern gas engine can cut CO_2 by up to 40 percent and all but eliminate particulate matter. **Diesel** can meet similar standards, but only with costly selective-catalytic-reduction (SCR) and particulate-filter systems.

Fuel Price Volatility

Diesel pricing moves with global oil markets and can spike during disasters, just when you're running longest. **Natural-gas prices are often more stable, especially if you negotiate long-term pipeline contracts tied to regional gas hubs.**

Maintenance Demands

Diesel maintenance is straightforward—filters, oil changes, and periodic fuel polishing. **Natural-gas** engines burn cleaner but add spark plugs, ignition coils, and more sensors, increasing parts counts and technician time. **Remote monitoring can minimize surprises with either technology.**

Both platforms have decades of proven run time in data-center duty. Your ultimate choice should align with reliability goals, ESG targets, site constraints, and long-term budget strategy.

Reliability Showdown

Let's compare the two on reliability and see which data center generator reigns supreme:

Start-Up and Load Acceptance

Diesel thrives on rapid cold starts and steep load steps, hitting full output in seconds. That's why legacy data centers often default to diesel for Tier III or IV

redundancy.

Natural gas units have narrowed the gap but can require slightly longer spin-up times. Modern microprocessor controls and pre-lubrication systems shave delay, yet they still trail diesel's near-instant response.

Fuel Availability in Emergencies

Diesel: You control your destiny with on-site tanks, but supply lines can be disrupted by extreme weather or transportation bottlenecks. Fuel maintenance (polishing, testing for microbial growth) is critical.

Natural gas: A buried pipeline is less likely to suffer storm damage or road closures, but earthquake zones or curtailment policies can interrupt flow. Dual-fuel engines (gas with diesel pilot) hedge against pipeline outages.

Mean Time Between Failures (MTBF)

Diesel engines are famously rugged, provided they're run under load and receive regular oil, filter, and coolant changes. **Natural-gas** engines include additional ignition components—spark plugs, coils—that introduce extra maintenance points. **However, remote monitoring and predictive analytics now keep both platforms within uptime targets.**

NO ON-SITE JOB

Cost and Budget Impact

Now let's compare and contrast diesel and natural gas data center generators on cost and budget:

Capital Expenditures

Diesel gen-sets remain the budget-friendly front-runner. Lower engine cost and simpler fuel infrastructure trim CapEx—but add room for bulk tanks, double-wall containment, and building ventilation. **Natural-gas** systems typically cost more upfront because of specialized catalysts, fuel regulators, and often a longer exhaust stack for code compliance.

Operating Expenses

Fuel is the big lever. Diesel prices fluctuate with oil markets and can spike during disasters—exactly when generators run longest. Gas prices swing too, yet large users can lock in multi-year pipeline contracts. Add maintenance: diesel needs frequent fuel testing and emissions after-treatment; gas engines burn cleaner but swap plugs and ignition parts more often.

Lifecycle ROI

Run-hour profile matters. Facilities that test weekly and experience rare extended outages may favor diesel's low CapEx and proven reliability. Edge sites required to run 100–500 hours per year for grid services or peak-shaving might lean gas—fuel savings and lower emissions, offsetting the higher purchase price.

Emissions and Compliance

Now let's take a closer look at emissions and compliance for these two data center generators:

Regulatory Landscape

Stricter air-quality rules hit diesel hardest—think EPA Tier 4 limits or city carbon caps. Installing selective catalytic reduction (SCR) and diesel particulate filters (DPF) increases cost and complexity. **Natural-gas engines already meet many NO_x and particulate thresholds without expensive after-treatment, smoothing the permit path in dense metros.**

ESG Pressures

Stakeholders increasingly scrutinize Scope 1 emissions. Gas engines cut CO_2 by 20–40 percent versus diesel, and renewable natural gas (RNG) options can shrink the footprint further. Biodiesel blends help diesel units, but sourcing sustainable feedstocks at scale can be tricky.

Scalability and Site Constraints

Finally, let's compare and contrast these data center generators when it comes to scalability and site constraints:

Space and Footprint

Diesel tanks demand significant real estate plus spill containment. Gas systems sidestep those tanks but require a secure pipeline route and sometimes onsite compression. Sound attenuation, exhaust stack height, and airflow clearance affect both types.

Modular Growth

Adding capacity? Diesel modules are easy to align and commission, but require additional tankage. Gas units can scale fast if the pipeline has headroom; otherwise, upgrades to gas service pressure or a dedicated utility meter may be needed.

Hybrid Possibilities

Pairing either generator type with battery storage trims run hours, cuts fuel burn, and allows
quieter, emissions-free bridging power for short grid glitches. Hybrid control systems dispatch batteries first, spinning gen sets only when outages surpass battery endurance.

Looking to bolster uptime without blowing your fuel budget? Explore our energy-storage solutions and discover how batteries can trim generator run-hours, reduce emissions, and extend equipment life.

Explore Energy Storage

Quick-Hit Scenarios: Which Generator Fits Your Priority?

Need lightning-fast start-up and big load bumps?

Lean on diesel. Its crank-to-full-load response is still the industry benchmark for sub-ten-second transfers.

Tight on space and tired of fuel deliveries?

Consider natural gas. A pipeline connection removes the need for large tanks and the logistical tango of refueling trucks.

Facing strict urban air-quality rules or corporate carbon goals?

Again, natural gas has the advantage of lower NO_x, CO_2, and virtually no particulates, which often simplifies permitting.

Building in a remote area with no pipeline access?

WE HAVE PIPELINE ACCESS IN ADAMSTOWN.

Stick with diesel. You can truck in fuel, store it on-site, and remain self-sufficient for extended outages.

Chasing the lowest upfront cost for infrequent run-hours?

Diesel typically delivers the best CapEx value, especially if you only exercise the units and rarely run at length. I'M WORRIED AMAZON WILL RUN AT LENGTH UNTIL THEY HAVE RELIABLE GRID POWER.

Planning for long-duration demand-response programs or frequent grid support?

Natural gas can run economically for hundreds of hours annually, offering fuel savings and smoother emissions compliance.

Align Reliability, Budget, and Environmental Goals

Choosing the right generator backup strategy isn't about brand loyalty—it's about aligning reliability, budget, and environmental goals with the strengths of diesel or natural gas technology.

Reach out to Pacifico Energy today. We'll help craft a generator plan that safeguards uptime, meets compliance, and supports your growth trajectory—no guesswork required

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

AMAZON DIESEL GENERATOR APPLICATION

1 message

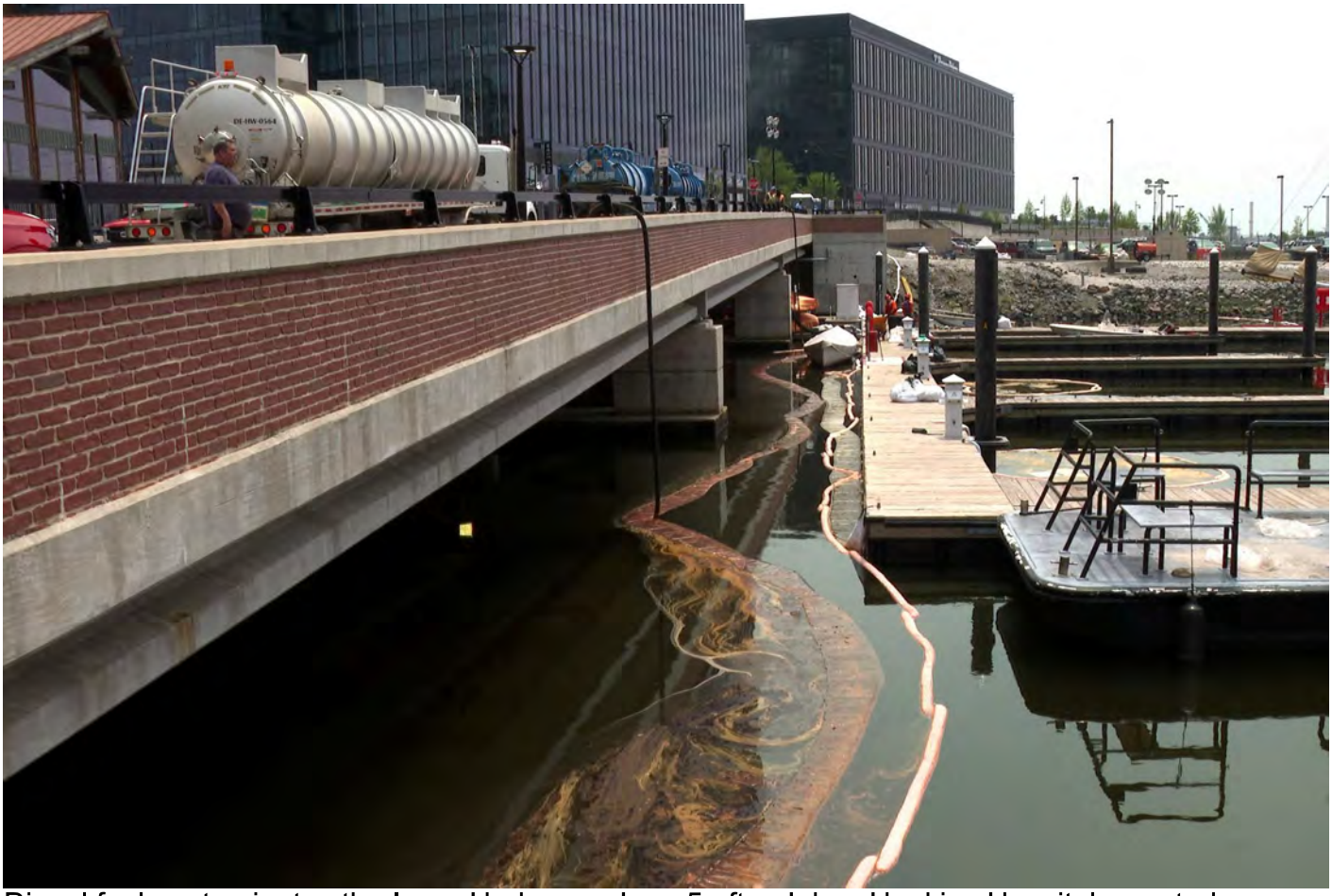
Hope Green <hope.green76@yahoo.com> Fri, Dec 19, 2025 at 11:08 PM
To: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>, Zachary Schafer -MDE- <zachary.schafer@maryland.gov>
Cc: Jessica Fitzwater <countyexecutive@frederickcountymd.gov>, Council Members <councilmembers@frederickcountymd.gov>, Planning Commission <planningcommission@frederickcountymd.gov>, "william.folden@senate.state.md.us" <william.folden@senate.state.md.us>, Jesse Delegate Pippy <jesse.pippy@house.maryland.gov>, April Delegate Miller <april.miller@house.maryland.gov>, Brandon Brooks -MDE- <brandon.brooks@maryland.gov>

WWW.INSIDECLIMATENEWS.ORG

Off the Books: Maryland's Clean Energy Push Ignores Backup Generator Pollution

Despite ambitious emissions goals, the state is failing to track and regulate fossil-fueled backup generators. The creeping data center boom will make a bad situation worse, advocates warn.

By Aman Azhar
July 16, 2025



Diesel fuel contaminates the Inner Harbor on June 5 after Johns Hopkins Hospital reported a contained spill at its East Baltimore facility. Credit: Yasin Ozturk/Anadolu via Getty Images

When thousands of gallons of diesel fuel spilled into Baltimore's Inner Harbor from Johns Hopkins Hospital on June 4, it didn't just contaminate the waterfront and threaten aquatic habitat. It also cast a spotlight on a deeper, largely overlooked problem: Maryland's continued dependence on fossil-fueled backup generators.

COMMENT: DIESEL GENERATORS REQUIRE FUEL. THERE WILL BE TENS OF THOUSANDS OF GALLONS STORED ON THE QUANTUM SITE UTLIMATELY IF ALL 1,000 GENERATORS ARE APPROVED. A SPILL/LEAK IS INEVITABLE.

IS MDE AIR RESPONSIBLE FOR FUEL STORAGE REGULATION OR IS THAT ANOTHER DEPARTMENT, ANOTHER SILO OF BUREAUCRACY?

Hospitals, research campuses and critical infrastructure like data centers across the state rely on diesel and natural gas-powered generators for emergency backup. Yet these systems remain largely unaccounted for in Maryland's decarbonization and emissions reduction plans, despite emitting significant quantities of greenhouse gases —especially when used in demand-response situations or during extended outages.

Under federal rules, diesel generators can operate up to 100 hours per year for non-emergency purposes like demand response. Stricter pollution controls are triggered if backup generators run beyond that federal cap, which experts say undermines air quality protections.

While the state is committed to an ambitious clean energy transition, officials acknowledge that unlike with supply-side systems, which are subject to real-time monitoring, they don't actually know how many of these generators exist or how much carbon, methane or particulate pollution these backup systems release annually.

"There's no statewide audit that has been done yet to quantify backup generator usage," said Maryland Energy Administration Director Paul Pinsky in an interview with Inside Climate News. He emphasized that such systems are used infrequently, "often once or twice a year," but conceded they're effectively invisible in Maryland's climate accounting and energy planning.

WHY CAN'T MDE WAIT UNTIL THE DATA CENTER STUDY HAS BEEN COMPLETED AND REVIEWED BEFORE APPROVING MORE BACKUP DIESEL GENERATORS?

The state's limited resources force leaders to prioritize areas with higher emissions impact, Pinsky said, like building electrification and utility-scale renewables. "We want to get away from fossil fuels. But we're trying to focus where we get the best return on investment," he said.

The issue, however, is bigger than presumed. Backup generators, many of them diesel-fueled, are not only used for emergency power but increasingly tapped for grid-support roles through demand response programs. When deployed during peak usage periods, their emissions spike.

COMMENT: DURING THE EXCESSIVE HEAT SPELLS THIS SUMMER, DOMINION ASKED VA DATA CENTERS TO RUN ON BACKUP POWER SO DOMINION WOULD HAVE ENOUGH POWER TO SERVE THE PUBLIC.

WHAT ASSURANCES DOES THE PUBLIC HAVE THAT THIS WON'T BE A CONSTANT OCCURRENCE WITH THE QUANTUM DATA CENTERS? HOW WILL MDE PROTECT THE PUBLIC FROM SPIKES IN EMMISSIONS?

"If they're being used during peak times and not just emergencies," Pinsky admitted, "that changes the complexion of the question."

Energy analysts say the scale of the issue is significant. And with a wave of hyperscale data centers slated for construction in Maryland and Virginia, which would be

accompanied by fleets of fossil-fueled backup generators, the associated emissions and public health concerns are poised to grow substantially.

COMMENT: MDE'S MISSION IS TO PROTECT THE ENVIRONMENT AND THE PUBLIC FROM POLLUTING INDUSTRY.

WHY WOULD MDE APPROVE AN ADDITIONAL 99 DIESEL GENERATORS WHEN THERE'S SUCH A RISK TO HUMAN HEALTH?

Maryland's climate accounting system is largely silent on fossil-fueled backup generators because "this type of data is not systematically tracked in real-time," said Matthew Hoyt, a principal at Exeter Associates, an energy consulting firm. He said that emissions from these systems, many of which power hospitals, university buildings and increasingly, data centers, are estimated at the permitting stage and "controlled" by runtime limits. But those estimates rarely reflect real-world operation or demand response events, which activate generators outside of emergencies, permitted under carve-outs with minimal oversight.
Despite their inconsistent use, the cumulative emissions footprint of these generators is thought to be much higher. "If we assume an average 1 MW diesel generator running close to its [permitted] cap [of] 100 hours a year, then annual CO2 emissions per unit is around 123.75 metric tons," Hoyt said.

WHY ARE ASSUMPTIONS MADE AND NOT REALTIME DATA?

That figure may seem small in isolation, but when scaled up, the problem becomes significant. "If we thought the number of schools, hospitals, fire stations, etc. justified 10,000 backup generators, you'd be in the right ballpark to say it's a significant impact," he said.

The state's growing attraction for data center buildout has heightened existing environmental concerns. "One of the reasons [data center oversight] bills passed in the first place is because the impacts of data centers on a variety of things—water, land use, emissions, etc.—are not entirely understood," Hoyt said. But earlier this year, Maryland Gov. Wes Moore vetoed SB116, which would have required an environmental impact review for data centers; Gov. Glenn Youngkin vetoed similar legislation in Virginia. Hoyt cited these actions as evidence of political reluctance to confront the issue.

Dr. K. Max Zhang, a professor of engineering at Cornell University and expert in air pollution and energy systems, said diesel backup generators can have an outsized environmental impact despite their limited power contribution.

"Even though diesel backup generators do not supply much power, they disproportionately contribute to NOx emissions when atmospheric conditions are most conducive to ozone formation i.e., hot summer days," Zhang said. He pointed to research showing that the emission factors of these generators are comparable to the most polluting combustion turbines, particularly during high-demand periods.

COMMENT: FREDERICK COUNTY IS ALREADY NONATTAINMENT FOR 8-HOUR OZONE. WE'VE BEEN EXPERIENCING EXTREME HEAT FOR 2 YEARS.

WHAT'S TO STOP THE DATA CENTERS FROM RUNNING AT LENGTH (IF PE DEMANDS THEM) DURING THE SUMMER TO ENABLE GRID SUPPLY TO THE PUBLIC AND SERVICE INFRASTURCTURE?

Zhang emphasized that allowing diesel generators to participate in demand response programs without oversight risks worsening air quality when it's already most vulnerable. "We argue that, if diesel backup generators are allowed to participate in demand response programs, they should meet strict emission standards," he said.

WHAT ARE THE EMISSION STANDARDS FOR AMAZON'S GENERATORS?

He also flagged the potential for localized air pollution spikes. "Diesel backup generators could contribute to high ground-level particulate matter concentrations—creating PM hotspots—if their stacks are not sited properly," Zhang said. He urged that stack placement be carefully evaluated based on surrounding land use and community proximity, especially for generators used in demand response roles.

COMMENT: DIESEL GENERATORS ARE WITHIN A MILE OF AN ELEMENTARY SCHOOL, A DAYCARE AND 500' OF RESIDENCES. HOWEVER, CHILDREN ARE AS MUCH AT RISK IN THEIR OWN BACKYARD AS THEY ARE IN THE SCHOOLYARD.

WHY WOULD MDE APPROVE 99 MORE GENERATORS KNOWING THE PROXIMITY TO SCHOOLS AND RESIDENCES?

In the absence of a statewide emissions inventory for fossil backup generators, several key studies offer insight into the scale and impact of these systems—and the policy gaps that accompany them.

A 2014 report by the Northeast States for Coordinated Air Use Management provided a comprehensive regional assessment of diesel backup generators in the northeast. NESCAUM consists of Connecticut, Maine, Massachusetts, New Hampshire, Rhode

Island, Vermont, New Jersey and New York. Maryland, though not a NESCAUM member, is part of the broader PJM Interconnection grid and shares similar climate and energy challenges.

The report estimated well over 30,000 units across the states with a combined capacity of more than 10 GW. Without pointing to Maryland or PJM, the report found that backup generators, most of them classified for emergency use only, were increasingly participating in demand response programs. The report did not quantify how often this happened or point to how many of these systems ran for longer than allowed under federal pollution standards.

WILL MDE AIR HAVE SUFFICIENT STAFF TO INSPECT WHEN DATA CENTERS RUN IN DEMAND RESPONSE? HOW WILL YOU KNOW...CITIZEN COMPLAINT? HOW WILL MDE STOP THEM? WHAT IS THE PENALTY?

The study also modeled emissions from these generators, including nitrogen oxides, particulate matter and volatile organic compounds. It found that when these generators are deployed, often during peak grid events, the resulting local air pollution can create short-term "hotspots," with pollutant concentrations in urban areas sometimes exceeding health-based thresholds. The report called for stronger oversight, including full registration, emissions reporting and phased retirement of fossil-powered backup systems.

HOW WILL MDE NOTIFY THE PUBLIC OF POLLUTANT HOTSPOTS?

Maryland's own Building Energy Performance Standards Technical Support Document, presented by the Department of the Environment in 2024 provides clearer evidence that continued reliance on on-site fossil systems—including backup generators—risks undermining the state's decarbonization targets.

While the document doesn't isolate generator emissions, its modeled scenarios show that buildings with fossil fuel-powered backup systems have considerably higher greenhouse gas emissions than fully electrified ones. The analysis makes clear that this continued reliance is at odds with Maryland's statutory mandate to reduce direct building emissions by 20 percent by 2030 and transition toward net-zero.

WHY WOULD MDE CONTINUE DOWN A PATH THAT UNDERMINES THEIR OWN WRITTEN ENERGY PERFORMANCE STANDARDS AND IGNORE A STATUTORY MANDATE?

A third report, commissioned by the Maryland Department of the Environment and conducted by the Johns Hopkins University Sustainable Energy Institute in 2024, found that diesel backup generators were necessary only during prolonged outages that

threaten safety but called them temporary tools. It stated that falling battery costs will make cleaner alternatives more viable, noting that refueling challenges and high emissions make diesel unsuitable for long-term resilience planning.

The report underscores the need to align resilience investments with decarbonization goals and highlights the importance of incentives for battery storage and microgrids, rather than continued reliance on diesel backup.
Despite these explicit recommendations, Maryland's newly adopted Building Energy Performance Standards law carves out major exemptions for entire building sectors such as hospitals and manufacturing facilities. As a result, the state's largest fossil-powered backup users are effectively shielded from having to decarbonize. Without mandates or incentives, advocates say, institutions have little reason to transition to battery storage, hybrid microgrids or cleaner alternatives like fuel cells.

In a statement, an MDE spokesperson said its building standards aim to promote cleaner backup systems like battery storage and hybrid microgrids and reduce the risk of pollution. But environmental advocates argue that without clear monitoring and enforcement, these goals remain on paper.

WHY HAS MDE REVERSED IT'S GOAL OF DECARBONIZATION?

Johns Hopkins Hospital, the source of last month's diesel spill, declined to say whether it plans to retire or replace its diesel infrastructure. A hospital spokesperson said only that "a thorough review of the diesel fuel overflow incident is ongoing."
Environmental advocates say the state and private institutions are equally responsible for tracking pollution and ensuring public health.

"The more real-time data we acquire on emissions and exposure, the better decisions we can make," said Kim Coble, executive director of the Maryland League of Conservation Voters.

Coble said state agencies already have the legal authority to require permit holders to monitor and report emissions from diesel and gas backup generators. "That's a logical and legal request," she said, adding that the state is "missing critical information that is obtainable."

WHY ISN'T MDE COLLECTING AND RECORDING REAL-TIME DATA?

She also criticized Maryland's reluctance to impose environmental expectations on data centers, which are creeping into the state and will have a massive impact on backup systems emissions.

WHY THE RELUCTANCE WHEN IT'S YOUR MISSION TO PROTECT US FROM POLLUTING INDUSTRY?

"If we want data centers here in Maryland, then what is our expectation of them?" she said. "You can't have a long-term productive partnership without responsibility."

Coble emphasized that responsibility lies not just with polluters, but with state leadership. "The Maryland Department of the Environment and the Maryland Energy Administration are responsible for leading the state's effort to reduce greenhouse gas emissions," she said. "If they need a push, then it's the General Assembly's job to force the issue and set the long-term agenda."

The impact, she said, isn't just technical—it's personal and community-oriented. "These emissions are going up somewhere and coming down. There's an environmental justice element that's ever-present. If industry won't address these impacts voluntarily, they'll need to be forced to do it."

WHAT IS MDE'S PLAN TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT BY REDUCING GREENHOUSE GAS EMISSIONS AS RELATED TO DIESEL GENERATORS?

COMMENT: SEEMS TO ME YOU'RE GOING IN REVERSE. YOU'RE GIVING LOYALTY TO THE POLLUTERS NOT THE PUBLIC.

MDE, WHY ARE YOU CONTINUING DOWN A PERILOUS AND HARMFUL DEAD-END PATH BY APPROVING MORE DIESEL GENERATORS?

Respectfully,

Hope Green
5515A Mountville Rd
5515B Mountville Rd
5252 Mountville Rd
Adamstown, MD 21710

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Diesel vs Natural Gas backup generation for data centers

1 message

Hope Green <hope.green76@yahoo.com> Thu, Dec 18, 2025 at 12:29 PM
To: Jessica Fitzwater <countyexecutive@frederickcountymd.gov>, Council Members <councilmembers@frederickcountymd.gov>, Planning Commission <planningcommission@frederickcountymd.gov>
Cc: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>, "william.folden@senate.state.md.us" <william.folden@senate.state.md.us>, Jesse Delegate Pippy <jesse.pippy@house.maryland.gov>, Office of Senator Karen Lewis Young <karen.young.ind@senate.state.md.us>, April Delegate Miller <april.miller@house.maryland.gov>

FYI, there is a natural gas line across the street that supplies Manor Village. The data center MANTRA "Speed and Scale", and cheaply as possible. This mantra does not consider environmental and human harm. WHY hasn't a "hybrid" backup system of batteries and natural gas been considered before permit approval of 99 more polluting machines adding to the 168-172 that have already been approved?

www.e-finity.com

Natural Gas vs. Diesel Generators: What's Better for Data Center Backup Power?

May 14, 2025

Data centers operate under tight uptime requirements, often aiming for no more than a few minutes of downtime per year. To meet these demands, every aspect of infrastructure needs to be engineered for resilience, including backup power. **While diesel generators have long been the default choice for emergency power systems, natural gas generators and microgrids are becoming a serious alternative.**

Choosing between natural gas and diesel isn't just a matter of cost or convenience. It requires evaluating performance under real-world conditions, regulatory expectations, fuel logistics, environmental impact, and long-term operational strategy. Below is a side-by-side breakdown of the two options as they relate specifically to data center environments.

Fuel Storage and Supply Chain

Diesel

Diesel fuel must be stored on-site in large tanks, which poses a few challenges. First, there's a finite amount of fuel available, typically enough for 24 to 72 hours of runtime unless deliveries can be made. Second, diesel has a limited shelf life and may degrade without proper treatment, requiring regular testing and maintenance. In extended outages or disaster scenarios, resupplying fuel can become difficult.

Natural Gas

Natural gas is delivered continuously through underground pipelines, which are far less vulnerable to weather and logistics issues. This means no need for onsite storage and no concerns about refueling during long-duration outages. However, reliability depends on the strength and redundancy of the local gas utility infrastructure. In some regions, dual-fuel systems or compressed gas storage can mitigate this risk.

Emissions and Environmental Impact

Diesel

Diesel generators emit high levels of nitrogen oxides (NOx), particulate matter, and greenhouse gases. Because of this, they are heavily regulated in many states and municipalities. Facilities may be limited in how many hours they can operate diesel systems per year unless they install costly emissions controls.

Natural Gas

Natural gas burns cleaner than diesel, producing lower levels of NOx, carbon monoxide, and CO_2 per unit of energy. Many natural gas systems qualify as low-emission or ultra-low-emission solutions, making them easier to permit and operate for extended durations. This makes them a better fit for organizations with sustainability goals or ESG reporting requirements.

Maintenance and Lifecycle Costs

Diesel

Diesel generators require regular testing, fuel quality checks, and more frequent maintenance. Wet-stacking, fuel polishing, and tank inspections add to the cost of ownership. While initial installation costs may be lower, the long-term upkeep can become expensive, especially in environments where they are called on more than a few times per year.

Natural Gas

Natural gas generators, particularly microturbines, have fewer moving parts and longer maintenance intervals. They don't suffer from fuel degradation issues and often include predictive maintenance features when paired with modern control systems. Over time, the total cost of ownership is often lower, especially when used as part of a hybrid or grid-supporting strategy.

Permitting and Regulatory Pressure

Diesel

In areas with strict environmental laws, diesel generators can be difficult to permit. Standby use is typically allowed, but limitations are placed on runtime and testing hours. Some regions also require emissions mitigation equipment, adding to both installation and ongoing compliance costs.

Natural Gas

Because of their cleaner emissions profile, natural gas systems face fewer regulatory hurdles. They're often allowed to operate longer, and in some cases can be used not just for backup, but for peak shaving or participation in grid programs. This added flexibility can improve the ROI of the power system as a whole.

Use Case Flexibility

Diesel

Diesel generators are primarily used for backup only. Running them for extended periods is costly and usually not permitted. They are best suited for applications where uptime is critical, but usage is minimal.

Natural Gas

Natural gas systems can be used for both backup and daily operations. In microgrid configurations, they can provide baseload power, support critical loads, and enable grid independence. This flexibility makes them ideal for facilities looking to offset utility rates, support sustainability goals, or add on-site generation capabilities.

Which Is Better Depends on the Application

For data centers that require high-speed backup and already have infrastructure in place for diesel, maintaining those systems might make sense in the short term. **But for operators planning long-term strategies that include sustainability, cost control, and fuel resilience, natural gas microgrids are increasingly difficult to ignore.**

WWW.PACIFICOENERGY.COM

The right generator keeps servers humming, customers happy, and reputations intact. But **should you stick with tried-and-true diesel or pivot to cleaner natural gas?** Let's break down the trade-offs so you can choose with confidence.

Backup Power Basics: Where Generators Fit

Even with robust UPS banks and lithium-ion storage, batteries buy you minutes, not hours, of runtime. Generators bridge that gap, providing sustained power until the grid returns or workloads can be migrated. In most large-scale data centers, gen-sets start automatically when UPS voltage sags, then feed critical loads until mains power stabilizes. So, the choice of generator has direct implications for uptime, operating budgets, and regulatory compliance.

Meet the Contenders: Diesel vs. Natural-Gas Generators

When you're comparing backup options for a large-scale data center, diesel and natural gas quickly rise to the top. Both technologies have logged countless hours in mission-critical environments, yet they differ in several meaningful ways:

Start-Up Speed and Load Acceptance

Diesel engines are legendary for their near-instant cold starts—often hitting full output in under ten seconds and accepting large load steps without a stutter. **Natural-gas** units have closed the gap with modern controls and pre-lube systems, but they usually need 15–30 seconds to ramp up. If your design criteria demand sub-ten-second transfer times, diesel typically wins.

Fuel Source and Logistics

Diesel relies on on-site storage tanks that can be topped off by truck, giving you autonomy if the local utility falters. **Natural gas is delivered via underground pipelines, eliminating tanker traffic and on-site fuel management, but tying you to utility infrastructure. Some operators install compressed natural gas (CNG) or LNG storage for extra resiliency.**

Capital Expense

Up front, diesel is almost always cheaper. Engines, enclosures, and supporting systems are simpler and less expensive than comparable natural-gas packages,

which can run 20–30 percent higher due to spark-ignition hardware and exhaust-after-treatment.

Emissions Profile

Environmental regulations are increasingly strict, and this is where natural gas shines.

Compared with a Tier 2 diesel set, a modern gas engine can cut CO_2 by up to 40 percent and all but eliminate particulate matter. **Diesel** can meet similar standards, but only with costly selective-catalytic-reduction (SCR) and particulate-filter systems.

Fuel Price Volatility

Diesel pricing moves with global oil markets and can spike during disasters, just when you're running longest. **Natural-gas prices are often more stable, especially if you negotiate long-term pipeline contracts tied to regional gas hubs.**

Maintenance Demands

Diesel maintenance is straightforward—filters, oil changes, and periodic fuel polishing. **Natural-gas** engines burn cleaner but add spark plugs, ignition coils, and more sensors, increasing parts counts and technician time. **Remote monitoring can minimize surprises with either technology.**

Both platforms have decades of proven run time in data-center duty. Your ultimate choice should align with reliability goals, ESG targets, site constraints, and long-term budget strategy.

Reliability Showdown

Let's compare the two on reliability and see which data center generator reigns supreme:

Start-Up and Load Acceptance

Diesel thrives on rapid cold starts and steep load steps, hitting full output in seconds. That's why legacy data centers often default to diesel for Tier III or IV

redundancy.

Natural gas units have narrowed the gap but can require slightly longer spin-up times. Modern microprocessor controls and pre-lubrication systems shave delay, yet they still trail diesel's near-instant response.

Fuel Availability in Emergencies

Diesel: You control your destiny with on-site tanks, but supply lines can be disrupted by extreme weather or transportation bottlenecks. Fuel maintenance (polishing, testing for microbial growth) is critical.

Natural gas: A buried pipeline is less likely to suffer storm damage or road closures, but earthquake zones or curtailment policies can interrupt flow. Dual-fuel engines (gas with diesel pilot) hedge against pipeline outages.

Mean Time Between Failures (MTBF)

Diesel engines are famously rugged, provided they're run under load and receive regular oil, filter, and coolant changes. **Natural-gas** engines include additional ignition components—spark plugs, coils—that introduce extra maintenance points. **However, remote monitoring and predictive analytics now keep both platforms within uptime targets.**

NO ON-SITE JOB

Cost and Budget Impact

Now let's compare and contrast diesel and natural gas data center generators on cost and budget:

Capital Expenditures

Diesel gen-sets remain the budget-friendly front-runner. Lower engine cost and simpler fuel infrastructure trim CapEx—but add room for bulk tanks, double-wall containment, and building ventilation. **Natural-gas** systems typically cost more upfront because of specialized catalysts, fuel regulators, and often a longer exhaust stack for code compliance.

Operating Expenses

Fuel is the big lever. Diesel prices fluctuate with oil markets and can spike during disasters—exactly when generators run longest. Gas prices swing too, yet large users can lock in multi-year pipeline contracts. Add maintenance: diesel needs frequent fuel testing and emissions after-treatment; gas engines burn cleaner but swap plugs and ignition parts more often.

Lifecycle ROI

Run-hour profile matters. Facilities that test weekly and experience rare extended outages may favor diesel's low CapEx and proven reliability. Edge sites required to run 100–500 hours per year for grid services or peak-shaving might lean gas—fuel savings and lower emissions, offsetting the higher purchase price.

Emissions and Compliance

Now let's take a closer look at emissions and compliance for these two data center generators:

Regulatory Landscape

Stricter air-quality rules hit diesel hardest—think EPA Tier 4 limits or city carbon caps. Installing selective catalytic reduction (SCR) and diesel particulate filters (DPF) increases cost and complexity. **Natural-gas engines already meet many NO_x and particulate thresholds without expensive after-treatment, smoothing the permit path in dense metros.**

ESG Pressures

Stakeholders increasingly scrutinize Scope 1 emissions. Gas engines cut CO_2 by 20–40 percent versus diesel, and renewable natural gas (RNG) options can shrink the footprint further. Biodiesel blends help diesel units, but sourcing sustainable feedstocks at scale can be tricky.

Scalability and Site Constraints

Finally, let's compare and contrast these data center generators when it comes to scalability and site constraints:

Space and Footprint

Diesel tanks demand significant real estate plus spill containment. Gas systems sidestep those tanks but require a secure pipeline route and sometimes onsite compression. Sound attenuation, exhaust stack height, and airflow clearance affect both types.

Modular Growth

Adding capacity? Diesel modules are easy to align and commission, but require additional tankage. Gas units can scale fast if the pipeline has headroom; otherwise, upgrades to gas service pressure or a dedicated utility meter may be needed.

Hybrid Possibilities

Pairing either generator type with battery storage trims run hours, cuts fuel burn, and allows
quieter, emissions-free bridging power for short grid glitches. Hybrid control systems dispatch batteries first, spinning gen sets only when outages surpass battery endurance.

Looking to bolster uptime without blowing your fuel budget? Explore our energy-storage solutions and discover how batteries can trim generator run-hours, reduce emissions, and extend equipment life.

Explore Energy Storage

Quick-Hit Scenarios: Which Generator Fits Your Priority?

Need lightning-fast start-up and big load bumps?

Lean on diesel. Its crank-to-full-load response is still the industry benchmark for sub-ten-second transfers.

Tight on space and tired of fuel deliveries?

Consider natural gas. A pipeline connection removes the need for large tanks and the logistical tango of refueling trucks.

Facing strict urban air-quality rules or corporate carbon goals?

Again, natural gas has the advantage of lower NO_x, CO_2, and virtually no particulates, which often simplifies permitting.

Building in a remote area with no pipeline access?

WE HAVE PIPELINE ACCESS IN ADAMSTOWN.

Stick with diesel. You can truck in fuel, store it on-site, and remain self-sufficient for extended outages.

Chasing the lowest upfront cost for infrequent run-hours?

Diesel typically delivers the best CapEx value, especially if you only exercise the units and rarely run at length. I'M WORRIED AMAZON WILL RUN AT LENGTH UNTIL THEY HAVE RELIABLE GRID POWER.

Planning for long-duration demand-response programs or frequent grid support?

Natural gas can run economically for hundreds of hours annually, offering fuel savings and smoother emissions compliance.

Align Reliability, Budget, and Environmental Goals

Choosing the right generator backup strategy isn't about brand loyalty—it's about aligning reliability, budget, and environmental goals with the strengths of diesel or natural gas technology.

Reach out to Pacifico Energy today. We'll help craft a generator plan that safeguards uptime, meets compliance, and supports your growth trajectory—no guesswork required

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Diesel Generators

1 message

Hope Green <hope.green76@yahoo.com> Fri, Dec 19, 2025 at 12:55 AM
To: Shannon Heafey -MDE- <shannon.heafey@maryland.gov>, Jessica Fitzwater <countyexecutive@frederickcountymd.gov>, Council Members <councilmembers@frederickcountymd.gov>, Planning Commission <planningcommission@frederickcountymd.gov>
Cc: Brandon Brooks -MDE- <brandon.brooks@maryland.gov>, Zachary Schafer -MDE- <zachary.schafer@maryland.gov>, "neiswinter.ian@epa.gov" <neiswinter.ian@epa.gov>, "william.folden@senate.state.md.us" <william.folden@senate.state.md.us>, April Delegate Miller <april.miller@house.maryland.gov>, Jesse Delegate Pippy <jesse.pippy@house.maryland.gov>

1. Health Impacts Have Tripled (November 2025 Study): A study released on November 21, 2025, by the University of California, Riverside, found that public health damages from data center pollution have tripled in four years (2019–2023), specifically identifying diesel backup generators as a primary source of dangerous particulate matter (PM 2.5) and Nitrogen Oxides (NOx).
2. Virginia Regulators Admit "Worst Case" Scenario (December 15, 2025): A legislative report found that in a "worst-case scenario," data center generators in Northern Virginia could release 9,000 tons of Nitrogen Oxides annually—roughly equal to half of all annual emissions from all other sources in the region combined.
3. The Public Service Commission (PSC) noted that granting exemptions would allow a single site to operate 168 diesel generators (Aligned DC, already approved) simultaneously, creating emissions equivalent to a 504 MW power plant.
4. The World Health Organization (IARC) classifies Diesel Engine Exhaust as a Group 1 Carcinogen (Proven to cause cancer in humans).

https://www.globalpwr.com

EPA Compliance for Diesel Generators Simplified

POSTED ON DECEMBER 8, 2025 BY GPS TEAM

Environmental regulations for diesel generators have grown increasingly complex. Facility leaders want certainty that their power systems are reliable, legally compliant, and engineered for long-term resilience. This guide breaks down how the EPA regulates standby diesel generators, clarifies the meaning of Tier 4 Final vs Tier 4 Certified vs Tier 4 Compliant, explains allowable operating hours for emergency standby use, and introduces **two important concepts often overlooked in emissions discussions: standby rating vs prime rating and why the largest diesel generators are still manufactured to Tier 2 standards.**

How EPA Tier standards evolved: Tier 1 through Tier 4 Final

EPA emissions standards for nonroad diesel engines have tightened steadily for more than twenty-five years. The progression looks like this:

- **Tier 1:** Introduced in the late 1990s.
- **Tier 2:** Rolled out in 2007 with limits on nitrogen oxides (NOx), particulate matter (PM), and hydrocarbons. Applies to standby generators above 450 kW.
- **Tier 3:** Rolled out in 2007 with limits stricter than Tier 2, but applies only to 37-450 kW standby generators.
- **Tier 4 Interim (Tier 4i):** Added in 2011 for larger engines to begin reducing particulate matter.
- **Tier 4 Final (commonly referred to simply as Tier 4):** The most stringent standard was fully implemented by 2015, requiring major reductions in NOx and PM.

Manufacturers and customers sometimes refer to “Tier 4 Final” and sometimes use “Tier 4.” Today, the term “Tier 4” is generally understood to represent the final and most advanced stage of rulemaking for this Tier.

The meaning of Tier 4 Certified vs Tier 4 Compliant

These two terms often cause significant confusion, yet the differences affect equipment selection and emissions permitting.

Tier 4 Certified

- The engine and complete generator package are tested, documented, and certified through the EPA’s official process by the OEM at the OEM’s Factory.
- Units carry EPA certification labels.
- Generally required for applications outside of true emergency standby use, including non-emergency, prime power, and any program involving demand response in parallel operation with the grid. This depends on the local Authority Having

Jurisdiction (AHJ), state or region of operations.

- Not permittable to bypass DPF and/or SCR if they were to fail. Engine would not be able to run in the event either item failed.

Tier 4 Compliant

- **3rd Party Integration of aftermarket treatment products (i.e. SCR and DPF) to achieve EPA Tier 4F equivalent emissions levels.**
- **Onsite testing is often required to verify emissions levels.**
- **Often acceptable in the same applications as Tier 4F Certified.**
- **Can be used to retrofit existing equipment.**
- **It is permittable to bypass diesel particulate matter filter and/or SCR solely if they were to fail. Engine could continue running in the event those items fail**.

COMMENT: THIS IS UNACCEPTABLE. I DO NOT TRUST AMAZON TO INSPECT FOR FAILURE OF T4 ADD-ONS. AS LONG THE GENERATORS CONTINUE TO RUN, THEY WON'T BOTHER ABOUT IT. MDE WILL NOT BE ABLE TO INSPECT IN A TIMELY MANNER.

Standby rating vs prime rating: why it matters for emissions

Every diesel generator is rated according to its intended operating profile. The EPA refers to these categories when determining what emissions tier applies.

Standby Rating

- Intended for use only during utility outages.
- No limit on run hours during an actual outage.
- Strict limits on non-emergency hours, commonly 100 hours per year or less for testing and maintenance, but actual limits depend on local air-district rules.
- Because standby generators are expected to run infrequently, they are allowed to meet less stringent emission standards if classified strictly as emergency standby, typically Tier 2 or Tier 3.

COMMENT: Because the so-called backup generators have been made to be T4 compliant, I feel as is the CC giving permission to the data centers to run at prime (outside of emergency), if they don't have sufficient power by the time they intend to go online! Loophole?

Prime Rating

- Intended to run for extended periods and carry a variable load.
- Used when there is no utility power or in locations where regular, long-duration generator operation is required.
- Prime-rated generators fall under tighter emissions requirements because they accumulate significantly more operating hours.
- Prime power applications typically require Tier 4 Certified emissions unless located in very specific jurisdictions with exceptions.

Understanding your true operating profile is essential. If a facility exceeds allowable non-emergency hours on a standby generator, the engine can be reclassified as non-emergency. That reclassification can trigger Tier 4 requirements even if the generator was originally purchased for emergency use.

COMMENT: HAS THE CC HAS GIVEN THE DATA CENTERS A LOOPHOLE THAT THE EPA WOULD NOT APPROVE IF KNOWN?

EPA Emergency vs Non-Emergency Classification (NSPS)

The US EPA New Source Performance Standards (NSPS) classify stationary engines based on brake horsepower and use type. These classifications determine which emissions standards apply and directly influence whether a generator can operate under Tier 2, Tier 3, or Tier 4 requirements.

Stationary vs Portable/Mobile

Stationary Engines

- The generator remains in one location for more than 12 months.
- These units must meet EPA stationary engine standards, which include the full tier structure.

COMMENT: CORRECT ME IF I'M WRONG, BUT THE GENERATORS WILL BE STATIONARY!

Portable or Mobile Engines

- Designed to be moved from site to site.
- Must meet US EPA non-road engine standards, which follow a different compliance pathway than stationary engines.

Emergency Classification

Generators classified as emergency engines fall into what most organizations refer to as Standby units.

Characteristics include:

- The generator is not the primary source of power and operates only when the utility supply fails.
- There is unlimited runtime allowed during an actual utility outage.
- Maintenance and readiness testing are limited to 100 hours per year or less, depending on size of genset and/or local requirements.
- Any use outside true outage events must follow strict limits to retain emergency status.

This classification allows the use of Tier 2 or Tier 3 engines in many jurisdictions, provided the engine stays within emergency-only restrictions.

Non-Emergency Classification

Generators classified as non-emergency engines are commonly referred to as prime or continuous power systems.

Characteristics include:

- The generator is the primary power source, or
- The generator supplements the utility in applications such as peak shaving, interruptible rate programs, or any use that generates income by exporting power to the grid.

Non-emergency generators accumulate more annual operating hours, so the EPA requires significantly cleaner emissions performance. This is where Tier 4 Certified power systems and Emissions After Treatment Systems (EATS), such as SCR and DPF, become required in most regions.

How many hours can an emergency standby generator operate legally?

EPA rules allow emergency standby generators to run:

- Unlimited hours during a true utility outage.
- Limited hours for testing and maintenance, typically 100 hours per year or less, depending on jurisdiction and size of genset.

Running beyond those limits or using the generator for peak shaving, demand response, or load management changes the classification. Once that happens, Tier 4 Certified generators are required in most regions.

State and local air districts, especially in major metropolitan areas considered non-attainment zones, often impose even stricter caps. Always confirm local regulations before establishing test schedules or non-emergency use profiles to ensure compliance.

COMMENT: FREDERICK COUNTY IS NONATTAINMENT FOR 8-HOUR OZONE. ADAMSTOWN HAS NO AIR-QUALITY MONITORING, SO WE DON'T KNOW IF WE ARE NONATTAINMENT FOR OTHER CONTAMINANTS.

Why many of the largest diesel generators are only manufactured to EPA Tier 2

This is one of the most misunderstood topics in the power generation industry. Large standby diesel generators in the 500 kW to 4000 kW range, such as the Cummins DQKAN 2500 kW, are typically produced as Tier 2 engines from the factory. Three major factors drive this:

1. Engineering and combustion realities at very high horsepower

Engines exceeding approximately 1600 horsepower face significant challenges in meeting Tier 4 Final standards without after treatment. Achieving Tier 4 inside the engine alone would reduce efficiency, raise exhaust temperatures, and increase fuel consumption. Manufacturers design these large engines as Tier 2 to maintain durability, reliability, and stable power output under high loads.

2. Intended operational use

Large generators, ranging from 500 kW to 4 MW, are predominantly purchased for emergency standby applications in data centers, hospitals, industrial facilities, and utility infrastructure. Under EPA rules, emergency standby generators can use Tier 2 engines as long as they stay within emergency-only operating limits. Because they are not expected to run continuously, the emissions impact is limited.

3. After Treatment allows Tier 4 performance when required

Although the engine itself is Tier 2, the complete generator system can still achieve Tier 4 Final emissions when an Emissions After Treatment System (EATS) is installed. Two common technologies are:

- **Selective Catalytic Reduction (SCR)** for NOx reduction.
- **Diesel Particulate Filter (DPF)** for PM reduction.

When engineered correctly, SCR and DPF systems enable a Tier 2 engine to meet Tier 4 Final emissions levels. This approach has several advantages:

- Lower cost compared to building a ground-up Tier 4 engine.
- Proven reliability for high horsepower applications.
- Flexibility to meet differing state and local emissions rules.
- Ability to retrofit after installation if operating needs change.

This is why many large Tier 2 generator models are routinely integrated with after treatment systems for facilities that need prime power, extended operation, or stricter Tier 4 compliance.

The impact of local regulations: metro vs rural differences

EPA regulations are the national framework, but state and regional air districts often add their own rules. In major metropolitan areas, air quality challenges drive stricter limits on particulate matter and NOx. This means:

- Tier 4 Certified units may be required even for emergency use.
- Annual test hours may be capped below federal allowances.
- After treatment may be mandated on larger generators.
- Permit processes can be more extensive.
- Typically the local AHJ requires “Generator Log” book to record testing, outages and scheduled (OM) Operational Maintenance.

COMMENT: I DON'T TRUST AMAZON TO KEEP ACCURATE LOGS AND I NO LONGER TRUST MDE TO INSPECT THAT THEY DO. HOW CAN THEY TIMELY INSPECT THESE LOGS GIVEN THE ESTIMATED AGGREGRATE (1,000)? WHAT IF THE DATA CENTER WERE TO FALSIFY THE LOG?

In rural regions or attainment zones, Tier 2 standby-only units may still be acceptable. This is why emissions compliance must always be evaluated at the local level, not just federally.

COMMENT: WE ARE NONATTAINMENT! WE DO NOT HAVE MONITORING AT THE LOCAL LEVEL. OUR NONATTAINMENT STATUS IS REPORTED AT THE FEDERAL LEVEL BY EPA!

Choosing the right generator and emissions package

Your facility should consider:

- True operating profile: standby or prime.
- Location and applicable air district rules.
- Load requirements and peak demand conditions.
- Future expansion and potential use cases.
- Availability of after-treatment systems for Tier 4 Final compliance.
- Long-term cost of ownership, including permitting and fuel profile.

Selecting the correct rating and emissions tier from the beginning avoids costly redesigns, unexpected permitting issues, and operating restrictions later.

Support from Global Power Supply

Global Power Supply provides expert engineering, turnkey project management, and emissions compliance guidance for backup power systems. Our team helps evaluate your load profile, location, regulatory requirements, and operational goals to recommend the right generator rating and emissions strategy. From Tier 2 emergency systems to complete Tier 4 Final packages with SCR and DPF integration, we deliver solutions that keep your facility compliant and resilient.

Global Power Supply is committed to helping customers navigate complex regulations with clarity and confidence.

COMMENT: IT'S CLEAR ALIGNED AND AMAZON DID NOT CONSULT WITH INDUSTRY EXPERTS. SPEED AND SCALE AS CHEAPLY AS POSSIBLE. DIESEL EMMISSIONS ARE CARCINOGENIC, PM2.5 AND ULTRA FINE PARTICULATE IN THE EMMISSIONS (T4 COMPLIANCE DOES NOT MEAN "ZERO PARTICULATE.") THE WIND CAN BLOW PARTICULATE MATTER HUNDREDS OF MILES AFFECTING THE HEALTH OF THE ENTIRE COUNTY.

1. Health Impacts Have Tripled (November 2025 Study): A study released on November 21, 2025, by the University of California, Riverside, found that public health damages from data center pollution have tripled in four years (2019–2023), specifically identifying diesel backup generators as a primary source of dangerous particulate matter (PM 2.5) and Nitrogen Oxides (NOx).
2. Virginia Regulators Admit "Worst Case" Scenario (December 15, 2025): A legislative report found that in a "worst-case scenario," data center generators in Northern Virginia could release 9,000 tons of Nitrogen Oxides annually—roughly equal to half of all annual emissions from all other sources in the region combined.
3. Maryland PSC Warning (Aligned Data Centers Case): The Public Service Commission (PSC) noted that granting exemptions would allow a single site to operate 168 diesel generators simultaneously, creating emissions equivalent to a 504 MW power plant.
4. Established Science: The World Health Organization (IARC) classifies Diesel Engine Exhaust as a Group 1 Carcinogen (Proven to cause cancer in humans).

My current residence is 500' from the Amazon facility. My husband is very ill possibly from blowing dust from the construction of the Amazon facility. Now, we have to worry about diesel emissions (a known carcinogen) wafting over our property. MDE should consider other options to Amazon's diesel generator permit. We are not safe in our home; Aligned DC is less than a mile from us. Their 168 generators, already approved plus Amazon's 99 is frightening to us.

Can MDE assure us that their approval of over 200 diesel generators won't be detrimental to our health?

Respectfully,

Hope Green
Adamstown, Maryland

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Frederick County - NONATTAINMENT AREA and LACK OF AIR QUALITY MONITORING

1 message

Hope Green <hope.green76@yahoo.com> Tue, Dec 16, 2025 at 1:59 PM
To: Jessica Fitzwater <countyexecutive@frederickcountymd.gov>, Council Members <councilmembers@frederickcountymd.gov>, Planning Commission <planningcommission@frederickcountymd.gov>
Cc: "steveblack2313@gmail.com" <steveblack2313@gmail.com>, Elyse Wilson <elysewilsonkhk@gmail.com>, Elizabeth Law <bettybob1758@gmail.com>, Brandon Brooks -MDE- <brandon.brooks@maryland.gov>, Shannon Heafey -MDE- <shannon.heafey@maryland.gov>, Karen Senator Lewis Young <karen.young@senate.state.md.us>

https://legalclarity.org

What Is a Nonattainment Area Under the Clean Air Act?

LegalClarity Team

Published Aug 28, 2025
A nonattainment area is a geographic region where air quality does not meet federal health-based standards for specific pollutants. This designation identifies locations with unhealthy air and triggers actions to improve air quality. The concept originated under the Clean Air Act, a federal law designed to control and reduce air pollution. Its purpose is to ensure Americans breathe safe air, prompting states to address pollution sources.

The process for designating an area as nonattainment begins with the EPA establishing National Ambient Air Quality Standards (NAAQS). These standards limit the concentration of six common air pollutants, known as criteria pollutants, to protect public health. The criteria pollutants are:

Ozone
Particulate matter (PM2.5 and PM10)
Carbon monoxide
Sulfur dioxide
Nitrogen dioxide
Lead

COMMENT: According to the EPA Frederick County is currently nonattainment for 8-hour ozone.

The EPA reviews and revises NAAQS periodically, ensuring they reflect the latest scientific understanding of air pollution's effects. States and tribes submit recommendations to the EPA regarding the attainment status of areas within their jurisdiction. These recommendations are based on **air quality monitoring data.**

COMMENT: **Adamstown does not have air quality monitoring. The closest monitor is at the airport but has NO DATA associated with it according to AIRNOW (EPA's air quality monitoring program).**

An area can be in nonattainment for one pollutant while meeting standards for others. Lacking current air quality monitoring, Adamstown and Frederick County could be nonattainment now or at least the immediate future because of diesel generators and brownfield contaminants for:

Particulate matter (PM2.5 and PM10)
Carbon monoxide
Sulfur dioxide
Nitrogen dioxide
Lead

COMMENT: Adding emissions from 1,000+ diesel generators would overwhelmingly decrease air quality, especially with regard to PM2.5 and nitrogen oxides.

Ongoing air quality monitoring is essential to track progress and verify that implemented strategies effectively reduce pollution levels. Once an area demonstrates three consecutive years of clean air data, showing consistent NAAQS attainment, it can request redesignation to attainment status from the EPA. This request must include a maintenance plan, outlining how the area will continue to meet the NAAQS for at least 10 years.

COMMENT: Frederick County will never achieve attainment status for any pollutant because of our geography and atmospheric/temperature inversion. Frederick County is in a valley surrounded by mountains and highways. Highways that collect miles of slow to still traffic emitting gas and diesel engine fumes and plumes.

https:/airquality.news

Temperature inversions are a meteorological phenomenon that significantly impacts air quality and public health. These events occur when a layer of warm air traps cooler air at the surface, preventing it from rising and dispersing pollutants. Understanding the mechanisms behind temperature inversions and their consequences is essential for mitigating their effects, especially in the context of global climate change.

Under normal conditions, air near the Earth's surface is warmer and rises, carrying pollutants away from ground level. However, during a temperature inversion, the typical gradient is reversed. Warm air forms a cap over cooler surface air, trapping pollutants such as particulate matter (PM2.5), nitrogen oxides (NOx), and sulfur dioxide (SO2)

Temperature inversions, while a natural atmospheric phenomenon, have profound implications for air quality and public health. Their frequency and severity may increase with ongoing climate change.

COMMENT: **In my opinion**, the PSC's refusal of Aligned's generators was influenced by our topography and atmospheric inversions. If Aligned fired up 168 diesel generators during a winter inversion, the resulting Nitrogen Oxides (NOx) and Particulate Matter (PM2.5) would pool in the valley, creating a toxic "soup." A full CPCN review would have required detailed air quality modeling to

simulate this scenario. But this data would have derailed Moore's promise to Aligned. So, he wrote the Streamlining Act allowing data centers to have unlimited diesel generators and negating MDE's consideration of the aggregate in their approval process. Further exacerbating the issue of air quality and human/environmental health, Moore's vetoing Senator Karen Lewis-Young's data center study bill (IMO).

PM2.5 and UFP's can travel for 100's of miles wherever the wind takes it. Most of our winds come from the South thereby blowing pollutants (ours and Loudon County's) into Westfield, the City of Frederick, Walkersville and beyond. If data centers were built outside the current Quantum site it would worsen the effects dramatically (IMO).

Impacts on Public Health

Prolonged exposure to pollutants during inversions poses serious health risks. Fine particulate matter (PM2.5) can penetrate deep into the lungs, causing respiratory and cardiovascular issues. Populations most at risk include children, the elderly, and those with preexisting conditions such as asthma or heart disease. According to the World Health Organization, air pollution contributes to millions of premature deaths annually.

COMMENT: PM2.5 measures less than the width of a human hair.

Air pollution is one of the biggest public health hazards the world faces today. While we often focus on larger and fine particles (PM10 and PM2.5), ultrafine particles (UFPs) deserve equal attention. Ultrafine particles (UFPs), also known as nanoparticles, are extremely small, typically less than 100 nanometers in diameter. These tiny particles can come from various sources, including vehicle exhaust, industrial emissions, and even natural processes like forest fires. UFPs, despite their size, play a significant role in atmospheric science, climate, and public health.

Health Implications

Respiratory Effects

- UFPs can penetrate deep into the respiratory system, reaching the alveoli. Their small size allows them to bypass the body's defense mechanisms.
- Exposure to UFPs has been linked to respiratory diseases such as asthma, chronic obstructive pulmonary disease (COPD), and lung cancer.
- UFPs may also exacerbate existing conditions and increase hospital admissions.

Cardiovascular Risks

- Emerging evidence suggests that UFPs can enter the bloodstream and affect the cardiovascular system.
- UFP exposure is associated with increased risk of heart attacks, strokes, and other cardiovascular diseases.

National Library of Medicine
National Center for Biotechnology Information (Study of PM2.5 and mental illness in Ireland)
ncbi.nlmnih.gov **Keywords:** Environmental health, PM2.5, Particulate air pollution, Mental health, Depression, Anxiety, Ireland

There is now increasing evidence that environmental conditions, and in particular poor air quality, may be associated with mental health and wellbeing.

Dementia

- Exposure to UFP has also been linked with onset of dementia.

Environmental Impact

Climate and Aerosol Dynamics

- In addition to their direct health effects, UFPs can also have indirect impacts on human health and the environment. For example, these particles can reduce visibility, leading to air pollution and impairing visibility for drivers and pedestrians.
- UFPs can contribute to climate change by absorbing sunlight and altering atmospheric processes. UFPs influence climate by acting as cloud condensation nuclei (CCN) and affecting cloud properties.
- Understanding UFP behavior may help improving climate change models and predictions..

Aviation and UFPs

- Ultrafine particles (UFPs) emitted by aircraft near airports pose significant health risks to nearby residents.

Air Quality Regulations

- To date, there are no regulations on safe levels of UFPs in the air. Current regulations primarily focus on PM2.5 and PM10, but UFPs are equally important and are largely ignored.
- The World Health Organization (WHO) recognized UFPs as a pollutant of emerging concern over 15 years ago.

Research Insights

Source Apportionment

- Monitoring UFPs helps identify their sources (e.g., traffic, industrial processes, combustion).
- Source apportionment informs targeted mitigation strategies.

COMMENT: I repeat, Adamstown has NO air quality monitoring. Closet monitor is at the airport but has NO DATA according to AIRNOW.

Indoor Air Quality

- Accurate UFP sensors can protect indoor air quality in workplaces and homes.

- HVAC systems can be adjusted based on UFP detection.

COMMENT: CMES, built in the 60's does not have an adequate HVAC system!

Challenges and Future Directions

Long-Term Data

- Continuous monitoring generates long-term data to correlate UFPs with health effects.
- This informs emission standards and public health policies.

COMMENT: We have NO air quality monitors in or around Adamstown.

Emission Reduction Strategies

- Quantifying UFPs guides efforts to reduce exposure and mitigate health impacts.
- **Improved monitoring can drive policy changes and technological innovations.**
- **To address the health risks posed by UFPs, it is essential to implement strategies to reduce their emissions. This includes promoting cleaner transportation options, improving industrial processes, and adopting policies that limit the use of polluting sources**.
- Additionally, individuals can take steps to protect themselves from UFP exposure by avoiding areas with high levels of air pollution, wearing respiratory protection when necessary, and staying informed about air quality conditions.

COMMENT: Currently, the Adamstown populace does not know if we need to mask-up when we go outside, nor do students and faculty at CMES know if they are safe inside the school, because **ADAMSTOWN DOES NOT HAVE ANY MONITORS**!

In Summary:

There are several health issues t commonly associated with inversion and air pollution:

Asthma: Poor air quality can cause asthma or make symptoms worse.

COPD: This is a group of lung diseases that cause breathing problems.

Heart disease: coronary artery disease, heart failure, cardiomyopathy and other heart conditions can be affected by air pollution.

Heart attacks: Poor air quality Increases the risk of heart attack over time.

Birth problems: Things like preterm birth, small birth size or weight, birth defects or even fetal or infant death are possible.

http://WWW.EPA.GOV

Exposure to such particles can affect both your lungs and your heart. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including:

- **premature death in people with heart or lung disease**
- **nonfatal heart attacks**
- **irregular heartbeat**
- **aggravated asthma**
- **decreased lung function**
- **increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.**

Environmental damage

Particles can be carried over long distances by wind and then settle on ground or water. Depending on their chemical composition, the effects of this settling may include:

- **making lakes and streams acidic**
- **changing the nutrient balance in coastal waters and large river basins**
- **depleting the nutrients in soil**
- **damaging sensitive forests and farm crops**
- **affecting the diversity of ecosystems**
- **contributing to acid rain effects**

COMMENT: How can we protect ourselves and our environment if we have **NO AIR QUALITY MONITORING** in our community? Is it by design like all the other deceptions that have been heaped upon us? Why did MDE approve Aligned's generators without proper, up-to-date monitoring scenarios? Because of Moore's Streamlinging Act and his requests for leniency for the industry as a whole? An impact study would have brought all this to light, but he couldn't risk that, so he vetoed Senator Young's bill (IMO). Moore should be impeached (IMO), if for no other reason than for the blatant disregard for the public's health and well-being! Adamstown could become another Ft. Detrick Area B Cancer Cluster (IMO).

I've heard rumor about Moore's promise to Fitzwater to reward her with an appointment at the State House for her support of the "industrialization of Southern Frederick County," i.e., data centers. If that happens, it will occur before she has her "listening sessions" and I highly doubt that Council President Young will honor that promise as he takes her place, IMO.

Promises - easy to make, harder to keep.

To expand the Overlay beyond its current boundary of the former Alcoa Eastalco site would be reprehensible (IMO). Please stop any expansion before any more damage is done.

Respectfully,

Hope Green
Adamstown

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Data center trash

1 message

Jamie Moses <mosesbird17@gmail.com> Sun, Dec 7, 2025 at 7:49 PM
To: shannon.heafey@maryland.gov

Good evening,

I hope that the interest of people is best served on Monday night. In case I cannot make the meeting I wanted to share my thoughts. Air pollution is not addressed by these kinds of companies. Nor is it being addressed by allowing them to exist in our community. I have drastically tried to reduce my digital foot print backing up what I need, etc. then deleting it as these building are a direct result of thinking there is no clutter as a result of the cloud. Their meer existence ruins the environment through noise pollution for struggling species such as birds. I would like there to be hundreds of thousands of native trees planted within the area around and on the property of what we have allowed to exist already. We must also limit the emissions from these. Pollution is something Maryland used to pride itself on reducing. Those days seem far behind us. It is very sad, especially so close to major water ways that lead to our state treasure, the Chesapeake Bay. Knowing struggling waterman and knowing how close my own community is to this location we must not allow it to affect what was once a very beautiful community slowly falling to the error of these ways. Stand strong against their pollution, do not fall for the thoughts of money.
Thank you,

Jamie

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Air Quality Permit to Construct for the Aligned Data Centers (Project IAD04).

1 message

Jill Sullivan <jillsullivan99@gmail.com> Fri, Dec 19, 2025 at 11:35 AM
To: "shannon.heafey@maryland.gov" <shannon.heafey@maryland.gov>

To Whom It May Concern,

I previously submitted a comment with my opposition to the permit. One would think this would be decided by common sense, because it involves the health of children, not by dollars. The questions I have about this are as follows:

What are the emergency combined emission standards for all of the generators on the Eastalco site, including the 99 generators seeking this permit?
Are emergency standards less than regular standards?
What constitutes an emergency? Have these emergency qualifiers been put in place, or are they subject to change?
At the meeting on December 8, 2025, at Carroll Manor Elementary School, it was said, "Frederick County is not in attainment of standards." What does this mean?
Why are the data centers allowed to self police?
How will MDE prove the data centers' self-reporting numbers are accurate?
Who will enforce non-compliance?
What are the ramifications for the data center operators if they don't comply with noise or emission levels?
Does MDE believe a (up to) $500 fine will make any difference to Amazon or any of the other data center tenants or operators for a noise violation?
Why aren't there any air quality control monitors in place for all of these generators that will be less than 2,000 yards from an elementary school?
What is in the dust created by building on the Eastalco brownfield site?
What is in the dirt that's being tracked all over the roads in Adamstown by the trucks coming from the brownfield site? (This dirt creates the dust being sucked into all vehicle's ventalation systems as they drive over the dirt.)
Are the street sweepers really helping, or are they just watering down the dirt and creating contaminated runoff?

I look forward to seeing the answers to my questions.

-Jill Sullivan
Adamstown

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

99 Diesel Generators Adamstown MD

1 message

K and E Stephens <kandestephens@gmail.com> Fri, Dec 19, 2025 at 7:19 PM
To: shannon.heafey@maryland.gov

Good afternoon ,

I am reading on the last day for a submission regarding the MDE draft air quality permit of the 99 diesel generators from Amazon.

Currently Adamstown MD does not have Air Pollution Censors near residents or schools near the Data Centers .

I looked up what Loundon County VA has done to help schools and residents due to there many years of experience with Data Centers Alley . This is what they now do for safety measures and at minimum we need the same :

Checking the air quality around schools has become a major flashpoint in Loudoun County, especially given that there are over 4,000 industrial-sized backup generators in "Data Center Alley."

As of late 2025, the monitoring is a mix of school-led indoor safety and citizen-led outdoor tracking. Here is the current situation regarding air monitors at schools near data centers:
1. The Citizen Network: PurpleAir Monitors
The most active air monitoring specifically targeting data center emissions isn't run by the government, but by the Loudoun Climate Project.
* Strategic Placement: They have deployed a network of high-tech "PurpleAir" sensors across the county, specifically in areas like Ashburn, Sterling, Leesburg, and Lansdowne where schools and data centers overlap.
* Real-Time Public Data: You can actually check these maps online in real-time. They track PM_{2.5} (fine particulate matter), which is the primary pollutant from those locomotive-sized diesel engines you mentioned.
* School Proximity: Many of these monitors are placed in residential neighborhoods directly adjacent to schools like Belmont Station Elementary or Trailside Middle School to catch any "spikes" when data centers test their generators.
2. LCPS Indoor Air Quality (IAQ) Program
Loudoun County Public Schools (LCPS) focus more on the air inside the building to ensure the data center exhaust isn't being pulled into the classrooms through the HVAC systems.
* Mandatory Inspections: Under a new 2025 Virginia law, LCPS is now required to perform "Uniform Periodic HVAC Inspections" every four years and make the results public.
* Upgraded Filtration: In many schools near industrial zones, LCPS has upgraded to MERV-13 filters or higher, which are designed to trap the fine soot and particles released by diesel engines.
* Reporting: Parents and staff can request a specific "Environmental Services" work order if they smell diesel or "unusual odors" (a common sign of generator testing), which triggers an immediate air sampling test by the county.
3. The DEQ "Emergency" Battle
A major controversy in 2025 involves the Virginia Department of Environmental Quality (DEQ).
* The Variance Concern: The state recently considered allowing data centers to run their generators more often during "planned outages" to help the power grid.
* The Push for Monitors: Environmental groups and parents have lobbied for a "No Monitor, No Run" rule. They are demanding that any data center within 0.5 miles of a school must have permanent, state-certified air monitors installed on-site before they are allowed to run those generators for non-emergency reasons.
4. Summary of Monitored Pollutants
If you are looking at air quality reports for a school, these are the three "red flags" to watch for:
* PM_{2.5} (Particulate Matter): Tiny soot particles that can penetrate deep into children's lungs.
* NO_x (Nitrogen Oxides): Causes that "yellow-brown" haze and can trigger asthma attacks.
* Ozone: Formed when generator exhaust reacts with sunlight; Loudoun is currently fighting to meet federal "attainment" levels for this.
How to Check Your School's Air Today
* Outdoor Air: Visit the PurpleAir Real-Time Map and zoom in on Ashburn/Sterling.
* Indoor Air: You can search the LCPS Support Services website for "Indoor Air Quality" to see the most recent HVAC assessment for your specific school.

We need this set up for Carroll Manor Elementary School in which one of those Amazon Data Centers is only 1974 feet from the school and many residents are only 500 feet away .

Carroll Manor Elementary also needs mitigation strategies to make sure they are sealed properly with updated HVAC with HEPA filters etc since the school is built in 1965.

Thank you

Ms Stephens
Adamstown MD

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

FORMAL OBJECTION: Draft Air Quality Permit for Amazon Data Services, Inc. – 99 Diesel Generators, Frederick, MD

1 message

K and E Stephens <kandestephens@gmail.com> Thu, Dec 11, 2025 at 12:22 AM
To: shannon.heafey@maryland.gov

To:Shannon Heafey, Maryland Department of the Environment (MDE) Air Quality Permits Program

Permit Applicant: Amazon Data Services, Inc.
Location: 3250 Digital Drive, Frederick, MD 21703
Relevant Docket/Application Info: [Reference the 92 large/7 smaller generators]

Dear MDE Air Quality Permits Program Staff,

I am writing to submit my formal and strenuous objection to the draft Air Quality Permit allowing the installation and operation of **99 diesel-fired emergency generators** at the Amazon Data Services facility in Frederick, MD.

While the applicant may claim to meet individual federal (NSPS) and state air quality requirements, the Department must reject this permit based on the **cumulative public health and environmental impact** and the fact that **proven, clean alternatives are immediately available** in our regional market.

1. The Flawed Rationale for Diesel Backup

The rationale for using diesel is outdated and irresponsible, especially in a state committed to aggressive greenhouse gas reduction under the **Climate Solutions Now Act (2022)**.

* **Availability of Green Alternatives:** Our neighbors in the Washington D.C. area, including those in Chantilly, VA (Digital Realty), have already demonstrated that high-capacity data centers can achieve **90% to 100% Carbon-Free Energy (CFE)** operation. This commitment to clean power renders the reliance on polluting diesel for backup morally and environmentally unacceptable.
* **Availability of Clean Backup:** Modern, large-scale, non-polluting alternatives—specifically **advanced battery energy storage systems and green hydrogen fuel cells**—are commercially available and successfully deployed by this industry. Approving this permit for diesel codifies the use of "old and dirty" technology and locks Frederick County into decades of unnecessary pollution.

2. Public Health and Cumulative Impact

The permit's focus on meeting "minor source" limits for **NOx emissions (under 25 tons per year)** fails to address the very real public health consequences of these pollutants in a dense community:

* **Public Health Hazard:** Even with Selective Catalytic Reduction (SCR) and Diesel Particulate Filters (DPF), the chronic, aggregated emissions from 99 high-megawatt diesel engines (running for testing, maintenance, and emergency) release harmful ultrafine particulate matter (PM 2.5), nitrogen oxides (NO_{x}), and formaldehyde near residential areas.
* **Noise and Light Pollution:** The operation of nearly 100 industrial engines and associated cooling infrastructure will fundamentally degrade the quality of life for residents and directly impact the health of nearby communities, including sensitive populations near schools.

3. The Demand for Better Permitting Standards

The MDE has the authority to impose **reasonable terms and conditions** on permits "to ensure compliance and to protect public health" (as cited in MDE documents). I demand that MDE exercise this authority by:

1. **Denying the current Draft Permit.**
2. **Requiring the Applicant to Revise their application to mandate non-fossil fuel backup power.** Specifically, the permit should require **battery storage or fuel cell systems** to replace the diesel generation.
3. **Mandating a timeline** for the facility to achieve 100% Carbon-Free Energy (CFE) use for its operational load,

aligning with Maryland's state-mandated goal.

The MDE must consider the larger environmental context, not just the minimum federal requirement for a single site. Approving 99 diesel generators is fundamentally inconsistent with Maryland's mandated climate goals and the availability of better, cleaner technology.

Sincerely,

Ken Stephens
Adamstown MD

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Amazon Draft Air Quality Permit-Health Protections, Strict Testing Restrictions & Written Agreement Required (Adamstown)

1 message

Adamstown Resident <residentadamstown@gmail.com>
To: shannon.heafey@maryland.gov

Wed, Nov 26, 2025 at 7:09 PM

Amazon Draft Air Quality Permit-Health Protections, Strict Testing Restrictions & Written Agreement Required (Adamstown)

I: HEALTH RISKS TO OUR VULNERABLE POPULATIONS

1. Installation of **99 industrial diesel generators** creates a concentrated source of two critical pollutants: **Diesel Particulate Matter (DPM)** and **Nitrogen Oxides (NOx)** which is an enormous health risk.

- **Risk to Children (Carroll Manor Elementary):**
  - **Lung Development:** Children's lungs are still developing. Exposure to NO2 and PM2.5 (fine particles) stunts lung growth and causes permanent deficits in lung function.
  - **Asthma & Respiratory Attacks:** NO2 causes inflammation of the airways. With a school only 1,900 feet away, "cold start" testing of these generators can trigger immediate, severe asthma attacks in students.
  - **Carcinogenic Exposure:** The World Health Organization classifies diesel engine exhaust as a Group 1 Carcinogen. You are proposing to release these toxins next to a captive audience of children for 6+ hours a day.
- **Risk to the Elderly:**
  - **Cardiovascular Failure:** Fine particulate matter (PM2.5) is small enough to pass from the lungs into the bloodstream. For our elderly residents, this significantly increases the risk of heart attacks, strokes, and arrhythmia.
  - **Compromised Immune Systems:** Elderly residents with pre-existing conditions (COPD, heart disease) cannot tolerate the spikes in pollution that occur during generator testing.

2. STRICT LIMITATIONS ON GENERATOR TESTING HOURS

To protect the health of these groups, we require strict limitations on when "maintenance testing" occurs.

PROHIBITED TIMES:

- **School Hours (Strict Prohibition):** Testing must **never** occur between **7:30 AM and 4:30 PM, Monday through Friday**. This is required to protect the students at **Carroll Manor Elementary** and the toddlers at **Creative Memories Children's Learning Day Care**, located just a few houses down.
- **Sleeping Hours:** Due to the large list of residents living only 500 feet from the Data Centers, testing must never occur during early morning or late evening sleeping hours.

REQUIRED TESTING WINDOW (The "Golden Hour"): We are looking for the absolute best compromise that protects the children's learning environment and the residents' need for sleep and peace. Therefore, we propose one specific window for routine monthly testing:

Wednesdays between 4:00 PM and 5:00 PM

Why this is the necessary compromise:

1. **For the School/Day Care:** Dismissal is over (3:30 PM), buses have cleared out, and the playground is emptying. The risk to children's lungs and concentration is significantly lower.
2. **For Residents:** Most people are awake, but it is before "dinner time." It avoids the start (Monday) and end (Friday) of the work week.
3. **For Rowan:** It is still within "standard business hours," so your technicians are on-site without needing overtime.

(Alternatively, if Wednesdays are impossible, the only other acceptable window is Saturdays between 10:00 AM and 12:00 PM).

---

3. TECHNICAL REQUIREMENTS FOR THE WRITTEN AGREEMENT

To proceed, we require the following items be included in the written contract. **Please note: None of these are "benefits" to Adamstown; they are basic Health Requirements.**

II-TECHNICAL REQUIREMENTS FOR THE WRITTEN AGREEMENT:

To proceed, we require the following items be included in the written contract:

Below (and attached) are the necessary mitigation measures required to protect our community.

Regarding the Draft Air Quality Permit to Construct for the Amazon Data Services facility (BWI-150 through BWI-153).

This facility plans to install **99 diesel generators** (approx. 257 MW) within **500 feet of residential homes** and **1,900 feet of Carroll Manor Elementary School**.

CRITICAL CONTEXT: THE SCHOOL VINTAGE
Carroll Manor Elementary was built in 1965. It is an aging structure with likely building envelope inefficiencies (leaky windows, older insulation, and non-HEPA HVAC systems). Standard air dispersion modeling assumes receptors are protected by modern building envelopes. That assumption is false for this school.

Therefore, MDE cannot legally approve this permit unless the following **MANDATORY** requirements and **MITIGATION** measures are met.

1. MANDATORY MITIGATION: THE "SEAL AND SAFE" SCHOOL RETROFIT

Because the receptor (the School) is a 1965 structure incapable of filtering out fine Diesel Particulate Matter (DPM), MDE must condition this permit on Amazon funding a "Seal and Safe" retrofit for Carroll Manor Elementary and make sure Creative Memories Children's Learning DayCare Center is safe for the exposure to ensure no adverse health impacts on students.

This Retrofit Package must include:

1. **Positive Pressure HVAC:** Installation of systems that maintain positive pressure inside the school to prevent outside exhaust plumes from seeping in during generator testing.
2. **MERV-13+ / HEPA Filtration:** Upgrading all air intakes to hospital-grade filtration to capture DPM.
3. **Building Envelope Sealing:** Replacement or sealing of 1965-era windows and doors facing the data center to prevent "fugitive infiltration" of NOx and particulates.
4. **Indoor Air Quality Monitors:** Installation of real-time monitors *inside* the classrooms to verify that the retrofit is working.

2. MANDATORY TECHNICAL “PASS/FAIL” REQUIREMENTS

A. The 1-Hour NO2 Safety Standard (The 500-Foot Test)
Federal law requires compliance with the 1-Hour National Ambient Air Quality Standard (NAAQS) for Nitrogen Dioxide (NO2).

- **The Mandate:** Diesel engines release a massive spike of NO2 during "Cold Start" (the first 15 minutes). MDE must verify via AERMOD modeling that simultaneous testing of generators will not violate the 1-Hour NO2 safety limit at the **residential property line (500 ft)** or the **School**.
- **The Demand:** If the model shows an exceedance during a "Cold Start," MDE **must deny** the permit or strictly prohibit simultaneous testing.

B. Toxic Air Pollutant (TAP) Compliance

- **The Mandate:** MDE must certify that the cancer risk from Diesel Particulate Matter (DPM) at the **500-foot residential boundary** is below the allowable screening level (1 in 100,000).
- **The Demand:** We require proof that the proposed "Catalyzed Diesel Particulate Filters" (CDPF) are efficient enough to protect residents at this close range.

C. "Synthetic Minor" Enforceability (The 25-Ton Cap)

- **The Mandate:** With 99 generators, MDE must demonstrate the mathematical proof that the proposed run-time limits guarantee emissions will *never* exceed 25 tons.
- **The Demand:** If the calculation is within 5% of the limit (e.g., 24 tons), MDE must require **Continuous Emissions Monitoring (CEM)**.

D. Mandatory Aggregation (Single Source Determination)

- **The Demand:** MDE must perform a Single Source Determination for the *entire* planned Bauxite campus (Phases 1, 2, and 3). Approving Phase 1 as a "Minor" source while ignoring the cumulative impact of future phases is illegal segmentation.

3. EQUIPMENT & RELIABILITY REQUIREMENTS

A. Certified Tier 4 Final vs. Retrofits

- **The Demand:** MDE must mandate **Certified Tier 4 Final engines** (factory-integrated). Retrofit "bolt-on" systems are prone to failure. Residents at 500 feet cannot afford a filter failure.

B. Mandatory CPMS (Continuous Parametric Monitoring)

- If retrofits are used, you **must mandate** a Continuous Parametric Monitoring System (CPMS) to log catalyst temperature and back-pressure every minute.

4. REQUIRED SPECIAL CONDITIONS: "THE ADAMSTOWN ALERT SYSTEM"

We demand the following **Special Conditions** be written into the final permit:

Condition 1: Dual-Point Fence-Line Monitoring
Amazon must install industrial-grade Air Quality Monitors (NOx and PM2.5) at:

1. The property boundary closest to the **residents (500 ft)**.
2. The property boundary facing **Carroll Manor Elementary**.

Condition 2: The "Fire Dept" Central Link

- These monitors must transmit **real-time data** to a dashboard accessible by the **Carroll Manor Fire Company (Station 14)**.
- **Trigger Point:** If pollution levels exceed the "Unhealthy for Sensitive Groups" AQI threshold, an automatic alert must be sent to Station 14.

Conclusion

You are proposing to place a massive industrial pollution source next to a **1965 elementary school that lacks modern defenses.** Unless Amazon funds the **"Seal and Safe" Retrofit and agrees to Real-Time Monitoring, this permit puts children at risk and must be denied.**

Having Carroll Manor Elementary School safe with the "Seal and Safe" and the alarm monitors are a priority.

Sincerely,

Ken Stephens

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

URGENT PUBLIC HEALTH DEMANDS: Draft Air Quality Permit for Amazon Data Services, Inc. – Protection for Carroll Manor Elementary School

1 message

Kyle Wilson <kylewilson2799@gmail.com> Thu, Dec 11, 2025 at 12:26 AM
To: shannon.heafey@maryland.gov

To: MDE.Submit-AirPermits@maryland.gov, Shannon Heafey

Permit Applicant: Amazon Data Services, Inc.

Location: 3250 Digital Drive, Frederick, MD 21703

Dear MDE Air Quality Permits Program Staff,

I am writing to register a formal and strenuous objection to the draft Air Quality Permit for the installation of **99 diesel-fired emergency generators** at the Amazon Data Services facility in Frederick, MD.

My primary concern is the direct and unacceptable public health threat these generators pose to nearby sensitive receptors, most critically **Carroll Manor Elementary School**.

Mandatory Demands to Protect Public Health

To ensure the safety of students, faculty, and area residents, the MDE must impose the following non-negotiable conditions on this permit application:

Demand 1: Mandatory Air Pollutant Warning System

The MDE must require the applicant to install a continuous, real-time air quality monitoring system at the facility boundary closest to Carroll Manor Elementary. If Particulate Matter (PM 2.5) or NO_{x} concentrations exceed a pre-determined safe threshold, the system must trigger an **audible siren or public warning notification system** immediately accessible and noticeable by the school and surrounding residents.

Demand 2: Prohibition of Testing During School Hours

The permit must contain an explicit and binding condition that **prohibits the testing or maintenance of all diesel-fired emergency generators between the hours of 7:00 AM and 5:00 PM, Monday through Friday.** Generator testing releases acute bursts of harmful pollutants and noise, which cannot be allowed to occur while children are present at the school.

Demand 3: Denial of Diesel; Mandate Clean Alternatives

The MDE must use its authority to protect public health by **denying the permit for fossil-fuel backup systems** and requiring the applicant to substitute clean alternatives. Modern, non-polluting solutions like **advanced battery energy storage and fuel cell technology** are commercially available. Granting this permit for 99 diesel engines is a direct contradiction of Maryland's climate goals and a negligent disregard for the health of the community surrounding Carroll Manor Elementary.

If this permit is approved, it must not be done at the expense of our children's health. I urge the MDE to place the safety of Frederick County residents above the convenience of the developer.

Sincerely,

Kyle Wilson

Adamstown MD

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

No to the 99 Diesel-Fired generators in Adamstown, Maryland

1 message

Lynne Murray <lynnem0323@gmail.com> Sat, Dec 13, 2025 at 9:21 AM
To: shannon.heafey@maryland.gov

Good Afternoon,
I am a resident in the Green Hill Manor community, located Adamstown, Maryland. My HOA sent me a notice about the meeting on Monday, December 8, 2025 at Carroll Manor Elementary School about the installation of 99 Diesel-Fired generators. We moved to Adamstown to get away from all the air and noise pollutants and to have better air quality to breathe so the installation of generators concerns me. I have listed my concerns below.

1. Emissions - the exhausts from each generator will contain NOx(Nitrogen Oxides), CO (Carbon Monoxide), VOC (Volatile Organic Compounds), and PM (Particulate Matter) that Adamstown has not had prior to this Amazon site being built. According to an EPA presentation, slide 6 these pollutants cause serious health issues: respiratory and cardiovascular disease. Along with liver, kidney, immune and reproductive health problems.

2.Diesel - How many tanker trucks will be needed to bring the diesel to this site? How large of a holding tank is needed to supply this diesel? What precautions will be taken to prevent leaking from the storage tank? Leakage from the trucks bringing the diesel to this site? These trucks will bring more traffic to our roads and damage the infrastructure faster.

3. Generators - Are these generators outside or in a building? The noise level already created by the cooling system for this data center is already noticeable. Adding this many generators will increase the noise level even higher which will be detrimental to the children at the elementary school and the residents in the neighboring communities. Will there be mufflers put on these generators to reduce the noise they produce?

4. Emergency Generators - These generators are allowed higher emissions due to short term durations. What precautions/standards are in place to prevent these generators from being used full time? Who will oversee that emergency generators will only be used for short emergencies. Will EPA be testing Adamstowns air quality on a regular basis to evaluate the air toxins from these generators?

I would vote NO to the additional generators. This Amazon site has already been found in several violations for other restrictions and has only received warnings no fines. I don't see this getting any better. Please keep me and my community informed about

these diesel generators and any other potential health hazards related to these Data Centers.

Thank you,
Lynne Murray
5909 Union Ridge Court
Adamstown, Maryland 21710

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Adamstown data center

1 message

Rachel Mellinger <rachel22e@hotmail.com> Fri, Dec 19, 2025 at 4:33 PM
To: "shannon.heafey@maryland.gov" <shannon.heafey@maryland.gov>

Thank you for opening the floor last week for public comment at the meeting at Carroll Manor Elementary.
I have one little with asthma going there now, 1st grade. And my littlest will start Kindergarten next year. We live in Green Hill Manor just across from the school.
I have high concerns for the health of my babies and myself and our community. Especially in regards to the diesel powered generators. I understand there will be many reasons to worry about our health re the data center as a whole. But I believe it is you (and your departments) job to protect us the citizens first.
We need to reign this whole process in as much as we can. And where we can't, we need to sort out and enforce tighter rules. The community does not want this data center in our back yards and so close to our school. Water, power, and environmental impacts are all going to be devastating for those of us closest to it.
If it must have back up power, why must it be diesel generators? Why must they be so big and tested so often? When my power goes out, it's never been deemed an emergency. Why aren't we requiring solar to be installed on the roof and batteries to help offset some of the community's concerns?
Why aren't we requiring they install a new and high quality hv/ac filtration system for the elementary school that's literally right next door? The added truck pollution and traffic and mud is already a huge problem. I cannot imagine how awful it will be to hear and smell those generators if they are allowed to be installed.
And the diesel storage?! How can we ensure that will be safe? No leaking, spillage or fire protection?
My main concern is that if these generators are allowed to be installed, then we MUST protect the kids and insist that a filtration system be put in the school. Must....
Thank you for your time,
Rachel Mellinger

Get Outlook for iOS

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Re: MDE Public Meeting on Air Quality for Amazon Data Center

1 message

Shannon Heafey -MDE- <shannon.heafey@maryland.gov> Wed, Dec 17, 2025 at 10:27 AM
To: roberthrobey@gmail.com

Good Morning Mr. Robey,

Thank you for submitting your comments for the record, they will be reviewed and addressed at the end of the comment period December 19, 2025.

In the meantime, the meeting was recorded and is on the MDE Youtube channel here: https://www.youtube.com/watch?v=LOm4z6zF9u8

The slides presented at the meeting are on our MDE website, here: https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx

The application and draft permit conditions are also on that page, scroll to the bottom to the "Alternate Public Review Procedures for Certain Sources Subject to New Source Performance Standards (NSPS)" table to read them.

I hope that helps where you couldn't hear/see what was presented at the meeting.

Sincerely,
Shannon Heafey

Shannon Heafey Public Participation Coordinator
Air Quality Permits Program, Air and Radiation Administration
Maryland Department of the Environment
1800 Washington Boulevard, Baltimore, Maryland 21230
shannon.heafey@maryland.gov
410-537-4433

On Wed, Dec 17, 2025 at 10:11 AM <roberthrobey@gmail.com> wrote:

> Hi Shannon,
>
> I found the subject meeting to be very interesting. Unfortunately, some of the material I found difficult to absorb, either because of speed of delivery or quality of acoustics. There was also an issue with clarity of visual graphics. So I have a few areas where I would like clarification.
>
> - Generators can only operate in an emergency or for maintenance and testing – there needs to be a definition for what constitutes an emergency. I live in Frederick City and on a regular basis I experience temporary loss of electricity. At what point does loss of power constitute an emergency?

- NEED CLEAR INFORMATION ON TESTING PLAN – frequency, duration, number in 'stack' testing, when (during what hours) record keeping (who), transparency, reporting (2x/yr), permit renewal (5 yr). Very concerned about noise from generator use and the aggregate noise from additional generator operations from the built out campus that might include 1000+ generators.
- The State has a 25T?/rolling year for Carbon(?)pollution. Is this per building/per application (Amazon application is for two data center structures) or for the campus as a whole? Responding to Steve Black's comments on disaggregation are important.
- Is the State satisfied that the QL EA is sufficient for the buildout of the entire campus?
- Does the State have information on the:
    - Noise levels for single generator versus stacked generators in terms of loudness, and range?
    - Noise level of single chillers versus hundreds of chillers in terms of loudness and range? This is perhaps more concerning than generator noise as it is unremitting, 24/7
- I agree with Mobilize Frederick and would like to see a cumulative impact analysis performed and not just look at one data center structure in isolation of the whole.
- The State spoke to the medical costs to state and residents to pollution from data centers. Would like MDE to estimate the medical costs to Frederick County residents to pollution from Frederick County data centers and pollution from Loudoun County.
- Will variations/exceptions be allowed for rules of generation operations? Who sets the rules – County or State?
- Who monitors noise and air quality compliance – frequency, reporting, and **penalties for non-compliance**?
- State should provide ongoing reports on water and air quality for Adamstown residents and FC. Who manages, funds and monitors corrective actions in a timely manner?

Bob Robey

Citizen, Frederick City

240 285 5225

Maryland

Shannon Heafey -MDE- <shannon.heafey@maryland.gov>

Concerns about generator permit at Amazon data center

1 message

Steve Thibault <spthibault@me.com> Sat, Dec 6, 2025 at 6:00 AM
To: shannon.heafey@maryland.gov

The draft permit to allow 99 generators operating at the Amazon data center in Adamstown is gravely troubling. 99 generators each allowed to operate for 100 hours per year equates to a generator operating continuously for the entire year. And the combined output of this non-emergency operation of 25-tons of NOx emitted into the atmosphere is appalling.

Our modern society continues to pollute the environment with no truly productive value received in return. We currently have more than enough electronic media and access to information in our daily lives. The boon of improvements to society with Artificial Intelligence is a false utopia. We do not need computer algorithms replacing the professions of physicians, attorneys, and educators and simply the demand on people to think and learn.

Southern Frederick County with its pastoral setting around the majestic Sugarloaf Mountain will forever be changed with the air pollution form the data centers and other natural resource demands, such as water from the Potomac River and power from new electric substations, required of the data centers. The tax revenue brought to the county is not worth that loss.

Clean air, clean water, and a healthy ecosystem are a far better utopia than the transfer of human intellect to computer algorithms.