Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director

July 16, 2024

Ms. Mishtee Chatterjee
Authorized Representative
c/o Mr. Blake Carruthers
Amazon Data Services, Inc.
13200 Woodland Park Rd.
Herndon, VA 20171

Location: Fauquier County
Registration No.: 74198

Dear Ms. Chatterjee:

Attached is a permit to construct and operate a data center in accordance with the provisions of the Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. This combined permit document combines the terms and conditions from and supersedes your permit document dated December 16, 2020.

In the course of evaluating the application and arriving at a final decision to approve the project, the Department of Environmental Quality (DEQ) deemed the application complete on July 16, 2024.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and/or civil charges. Please read all permit conditions carefully.

This permit approval to construct and operate shall not relieve Amazon Data Services, Inc. of the responsibility to comply with all other local, state, and federal permit regulations.

The proposed diesel fired emergency engine generator sets (engine gen-sets) may be subject to 40 CFR 63, Maximum Achievable Control Technology, (MACT) Subpart ZZZZ and 40 CFR 60, New Source Performance Standard (NSPS), Subpart IIII. Virginia has not accepted delegation of these rules. In summary, the units may be required to comply with certain federal emission standards and operating limitations. The Department of Environmental Quality (DEQ) advises you to review the referenced MACT and NSPS to ensure compliance with applicable emission and operational limitations. As the owner/operator you may be also responsible for any monitoring, notification, reporting and recordkeeping requirements of the MACT and NSPS. Notifications shall only be sent to EPA, Region III.

To review any federal rules referenced in the above paragraph or in the attached permit, the US Government Publishing Office maintains the text of these rules at www.ecfr.gov, Title 40, Part 60 and 63.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. Please consult the relevant regulations for additional requirements for such requests.

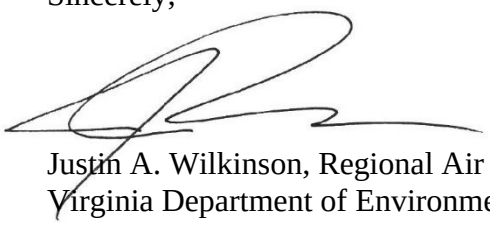
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

Michael S. Rolband, Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please contact Ms. Katie DeVoss at (571) 866-6090 or katie.devoss@deq.virginia.gov.

Sincerely,



Justin A. Wilkinson, Regional Air Permit Manager
Virginia Department of Environmental Quality
(571) 408-1651
justin.wilkinson@deq.virginia.gov
Northern Regional Office
13901 Crown Court, Woodbridge, VA 22193
(703) 583-3800

JAW/KD/74198 mNSR (2024-07-16)

Attachment: Permit

Commonwealth of Virginia

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Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director

STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE

This permit document supersedes the permit document dated December 16, 2020.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Amazon Data Services, Inc.
13200 Woodland Park Road
Herndon, VA 20171
Registration No.: 74198

is authorized to construct and operate

emergency diesel engine generator sets (gen-sets)

located at

7471 Bear Wallow Road
Warrenton, VA 20186
(Fauquier County)

in accordance with the Conditions of this permit.

Approved on: July 16, 2024.

Justin A. Wilkinson, Regional Air Permit Manager
Virginia Department of Environmental Quality

Permit consists of 22 pages (w/o the attachment).
Permit Conditions 1 to 30.
Attachment A – Source Testing Report Format (1 page)

INTRODUCTION

This permit document is based on and combines permit terms and conditions in accordance with 9VAC5-80-1255 from the following permit approvals and the respective permit applications from Facility Registration Numbers 40902 and 74198:

Permit Program: Approval/Amendment Date	Application/Letter Signature Date	Application Supplemental Information Date
Superseded SOP: 6/25/2002	2/15/2002	-
Minor NSR: 4/4/2007	7/28/2006 (8/1/2006)	2/7/2007
Minor NSR amendment: 3/15/2010	3/26/2008	-
Minor NSR exemption: 12/13/2010	6/22/2010	6/26/2012
Minor NSR: 6/12/2013	4/30/2012	4/18/2013
Minor NSR: 10/29/2013	4/9/2013, 5/31/2013 (6/4/2013)	10/1/13, 10/7/13, 10/11/13
Minor NSR: 6/27/2014	5/21/2014 (5/29/2014)	5/29/2014, 6/20/2014
Minor NSR: 5/13/2015	10/23/2014, 3/17/2015	2/9/2015, 3/2/2015, 4/3/2015
Minor NSR: 10/5/2015	7/27/2015	8/12/2015, 8/27/2015
Minor NSR: 4/6/2016	N/A (reopened 10/5/15 permit)	-
Minor NSR: 8/25/2016	4/4/2016	5/16/2016
Minor NSR Significant Amendment: 3/30/2017	12/20/2016	2/7/2017
Minor NSR Minor Amendment: 6/18/2018	12/21/2017, 5/14/2018	2/28/2018
Minor NSR: 4/10/2019	9/7/2018	2/12/2019, 3/27/2019
Minor NSR Amendment: 8/21/2020	5/6/2020	-
Minor NSR: December 16, 2020	9/11/2020	11/11/2020
Minor NSR: 7/16/2024	2/6/2024	3/26/2024, 4/25/2024, 6/27/2024, 7/16/2024

Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit shall have meanings as provided in 9VAC5-80-1110 and 9VAC5-10-10 of the Commonwealth of Virginia State Air Pollution Control Board's (Board's) Regulations (Regulations) for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition. The enabling permit program, or permit programs is provided below each permit condition in the regulatory authority parenthetical as follows: 9VAC5-80-850 for Article 5, 9VAC5-80-1180 for Article 6, 9VAC5-80-1985 for Article 8, and 9VAC5-80-2050 for Article 9. The most recent effective date for a term or condition is listed in brackets [ ]. When identical conditions for one

or more emission units are combined, the effective date listed in this permit does not alter the prior effective date(s) for any such conditions as issued in a previous permit action. In accordance with 9VAC5-80-1120F, any condition not marked as state-only enforceable (SOE) is state and federally enforceable.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the Department of Environmental Quality (DEQ) or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9VAC5-170-60 of the Board's Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

Equipment List – Equipment at this facility consists of the following:

Equipment to be Constructed

Reference No.	Equipment Description	Rated Capacity	Delegated Federal Requirements	Original Permit Date
EG-POD 19	Caterpillar Model C175-16 emergency diesel engine gen-set	4,423 bhp 3,000 ekW	None	July 16, 2024

Equipment Previously Permitted

Reference No.	Equipment Description	Rated Capacity	Add-On Control Technology	Delegated Federal Requirements	Original Permit Date
EG-POD 1 EG-POD 2	Two (2) Caterpillar Model 3516 C emergency diesel engine gen-sets, date of manufacture 2013	2,937 bhp 2,000 kW (each unit)		None	October 29, 2013
EG-POD 3	Caterpillar Model 3516 C emergency diesel engine gen-set, date of manufacture 2015	2,937 bhp 2,000 kW		None	October 29, 2013

Reference No.	Equipment Description	Rated Capacity	Add-On Control Technology	Delegated Federal Requirements	Original Permit Date
EG-POD 4	Caterpillar Model 3516 C emergency diesel engine gen-set, date of manufacture 2013	3,634 bhp 2,500 kW		None	October 29, 2013
EG-POD 5	Caterpillar Model 3516 C emergency diesel engine gen-set, date of manufacture 2015	2,937 bhp 2,000 kW	CAT Retrofit Selective Catalytic Reduction (SCR) System*	None	October 5, 2015
EG-POD 6 through EG-POD 7	Two (2) Caterpillar Model C175-16 emergency diesel engine gen-sets, date of manufacture 2016	4,423 bhp 3,000 kW (each unit)	CAT Retrofit SCR System*	None	August 25, 2016
EG-POD 8	Caterpillar Model C175-16 emergency diesel engine gen-set, date of manufacture 2017	4,423 bhp 3,000 kW	CAT Retrofit SCR System*	None	August 25, 2016
EG-POD 9	Caterpillar Model C175-16 emergency diesel engine gen-set, date of manufacture 2018	4,423 bhp 3,000 kW	CAT Retrofit SCR System*	None	August 25, 2016
EG-POD 11 through EG-POD 16	Six (6) Caterpillar Model C175-16 emergency diesel engine gen-sets	4,423 bhp 3,000 kW (each unit)	None	None	December 16, 2020
EG-POD 18	Caterpillar Model C32 emergency diesel engine gen-set	1,474 bhp 1,000 kW	None	None	December 16, 2020

*The Caterpillar (CAT) Retrofit SCR System includes an SCR with closed loop dosing to control NO_X by 85% guaranteed and a diesel particulate filter (DPF) to control particulate matter (PM) (no guarantee provided).

Specifications included in the above tables are for informational purposes only and do not form enforceable terms or conditions.

PROCESS REQUIREMENTS

1. **Emission Controls –** The emergency diesel engine gen-sets shall control emissions as follows:

   a. Visible emissions, particulate matter (PM_{10} and $PM_{2.5}$) emissions, carbon monoxide (CO) emissions, volatile organic compound (VOC) emissions, and nitrogen oxide (NO_X) emissions from the diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall be controlled by the use of good operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.

   b. Nitrogen oxides (as NO_2) emissions from each emergency diesel engine gen-set (Ref. Nos. EG-POD 5 through EG-POD 9) shall be controlled by closed loop SCR. Each SCR system shall be equipped with a temperature probe to monitor the catalyst bed exhaust temperature at all times when the engine gen-set to which it is connected is operating. The diesel exhaust fluid (DEF) dosing enabling temperature shall be 572°F (300°C) (catalyst bed exhaust temperature). The diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9) engine exhaust gas shall be treated with DEF when the engine is operating at or above 572°F (300°C) but below 1,022°F (550°C). The SCR shall be considered fully operational for controlled emission calculation purposes when DEF dosing is occurring.

   c. Nitrogen oxide (NO_X) emissions from each emergency diesel engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall be controlled by engine design.

   (9VAC5-80-1180 and 9VAC5-50-260) [7/16/24]

2. **Monitoring –**

   a. Fuel Flow: Each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall be equipped with a device to continuously measure and record individual fuel consumption (in gallons) for each engine gen-set.

   b. Engine Operating Hours: Each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall be equipped with a non-resettable hour meter which measures the duration of time that each engine gen-set is operated.

Each monitoring device (as required in a. and b. above) shall be observed by the permittee with a frequency of not less than once each day the emergency diesel engine gen-set is operated. The permittee shall keep a log of these observations.

Each monitoring device shall be installed, maintained, calibrated (as appropriate), and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The details of the monitoring device calibrations are to be arranged with the Regional Air Compliance Manager of the DEQ's Northern Regional Office (NRO).

Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the engine gen-sets are operating.
(9VAC5-80-1180 D) [7/16/24]

3. **Monitoring Devices (SCR) –**

   a. The closed loop SCR system on each engine gen-set (Ref. Nos. EG-POD 5 through EG-POD 9) shall be equipped with a device to measure and record the NO_X emissions (expressed in ppm), measured before and after the catalyst, and catalyst bed exhaust temperature at least once every 15 minutes. The information shall be correlated to run date, engine load/kilowatt output, and engine operating hours. The control device shall be equipped with a non-resettable hour meter to continuously measure its hours of operation. Total operating time and load shall be recorded for all periods when engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9) are operating.

   b. Exhaust temperature sensors and NO_X sensors for the engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9) shall be installed, maintained, calibrated (as appropriate) and operated in accordance with approved procedures, which shall include, as a minimum, the manufacturer's written requirements or recommendations.

   c. Exhaust temperature sensors and NO_X sensors for the diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9) shall be provided with adequate access for inspection and shall be in operation when the engines are operating (as applicable).

   (9VAC5-80-1180 D, 9VAC5-50-20 C, and 9VAC5-50-260) [7/16/24]

OPERATING LIMITATIONS

4. **Operation of the Emergency Diesel Engine Gen-Sets –** The permittee shall operate and maintain each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) and control device according to the manufacturer's written instructions or procedures developed according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer and do not increase air emissions.
(9VAC5-80-1180) [7/16/24]

5. **Operating Limitations (Ozone Season) –** No emergency diesel engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall be operated for scheduled maintenance checks and readiness testing (Scheduled MCRT), stack testing, or operational training (that involves fuel combustion) between the hours of 7 a.m. to 5 p.m. any day during the ozone season of May 1 through September 30. The permittee may petition the Air Compliance Manager of the DEQ NRO for exceptions to this requirement, with approvals made on a case-by-case basis.
(9VAC5-80-1180) [7/16/24]

6. **Operating Limitations (Ozone Season) – Integration Operational Period –** During the integration operational period of each emergency diesel engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19), any operation of the unit (that involves fuel combustion) between the hours of 7 a.m. to 5 p.m. any day during the ozone season of May 1 through September 30 shall only occur if the forecast Air Quality index (AQI) for ozone as published on the AirNow website (https://airnow.gov) for Northern Virginia for that day is less than or equal to 100. In the event that AirNow-EnviroFlash (www.enviroflash.info) issues an Air Alert for Metropolitan Washington, D.C. for a day which the forecasted AQI for ozone was less than or equal to 100, operation of each unit (which involves fuel combustion) shall be minimized to the maximum extent practical.
(9VAC5-80-1180) [7/16/24]

7. **Emergency Power Generation –** The emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall only be operated in the following modes:

   a. In situations that arise from sudden and reasonably unforeseeable events where the primary energy or power source is disrupted or disconnected due to conditions beyond the control of an owner or operator of a facility including:

      i. A failure of the electrical grid;

      ii. On-site disaster or equipment failure; or

      iii. Public service emergencies such as flood, fire, natural disaster, or severe weather conditions.

   b. For participation in an Independent System Operator (ISO)-declared emergency, where an ISO emergency is:

      i. An abnormal system condition requiring manual or automatic action to maintain system frequency, to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property;

      ii. Capacity deficiency or capacity excess conditions;

iii. A fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel;

iv. Abnormal natural events or man-made threats that would require conservative operations to posture the system in a more reliable state; or

v. An abnormal event external to the ISO service territory that may require ISO action.

c. For scheduled maintenance checks and readiness testing (Scheduled MCRT).

d. For unscheduled maintenance, testing, and operational training.

e. For the integration operational period, which is the period of time beginning with the first time the affected unit is started on-site and ending when the affected unit is fully integrated with the sources electrical system.

(9VAC5-80-1110 and 9VAC5-80-1180) [7/16/24]

8. **Operating Hours –**

a. Each diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9) shall not operate more than 500 hours per year, calculated monthly as the sum of each consecutive 12-month period.

b. Each emergency diesel engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, and EG-POD 18) shall not operate more than 51 hours per year for scheduled maintenance checks and readiness testing (MCRT, as provided in Condition 7.c), and no more than 500 hours per year for all purposes (as provided in Condition 7).

c. The emergency diesel engine gen-set (Ref. No. EG-POD 19) shall not operate more than 35 hours per year for scheduled maintenance checks and readiness testing (Scheduled MCRT, as provided in Condition 7.c). The emergency diesel engine gen-set (Ref. No. EG-POD 19) shall not operate more than 500 hours per year for all purposes (as provided in Condition 7) combined.

The annual limits for hours of operation shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total operating hours for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. (9VAC5-80-1180) [7/16/24]

9. **Fuel Specifications –** The approved fuel for the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) is ultra-low sulfur diesel fuel oil, and shall meet the specifications below:

   ULTRA LOW SULFUR DIESEL FUEL OIL:

   a. Does not exceed the American Society for Testing and Materials (ASTM) specification, D975, for grade ultra-low sulfur 2-D or grade 2-D S15, or

   b. Has a maximum sulfur content not to exceed 0.0015% by weight (15 ppm), and either a minimum cetane number of 40 or maximum aromatic content of 35 volume percent.

   (9VAC5-80-1180) [7/16/24]

10. **Fuel Certification –** The permittee shall obtain a certification from the fuel supplier with each shipment of diesel fuel. Each fuel supplier certification shall include the following:

    a. The name of the fuel supplier;

    b. The date on which the diesel fuel was received;

    c. The quantity of diesel fuel delivered in the shipment;

    d. A statement that the diesel fuel conforms to the applicable fuel specification requirements of Condition 9; and

    e. The sulfur content of the diesel fuel.

    Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by the DEQ may be used to determine compliance with the fuel specifications stipulated in Condition 9. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
    (9VAC5-80-1180) [7/16/24]

11. **Diesel Fuel Throughput Limits –**

    a. The emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 4 and EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) for all operations and the emergency diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9) for operations when emissions are not controlled by SCR, combined, shall consume no more than 584,823 gallons of diesel fuel oil per year calculated daily as the sum of each consecutive 365-day period.

b. The emergency diesel engine gen-set (Ref. No. EG-POD 5) for operations when emissions are not controlled by SCR shall consume no more than 13,800 gallons of diesel fuel oil per year calculated daily as the sum of each consecutive 365-day period.

c. The emergency diesel engine gen-set (Ref. No. EG-POD 5) for operations when emissions are controlled by SCR shall consume no more than 55,200 gallons of diesel fuel oil per year calculated daily as the sum of each consecutive 365-day period.

d. The emergency diesel engine gen-sets (Ref. Nos. EG-POD 6 through EG-POD 9) for operations when emissions are not controlled by SCR, combined, shall consume no more than 106,650 gallons of diesel fuel oil per year calculated daily as the sum of each consecutive 365-day period.

e. The emergency diesel engine gen-sets (Ref. Nos. EG-POD 6 through EG-POD 9) for operations when emissions are controlled by SCR, combined, shall consume no more than 426,600 gallons of diesel fuel oil per year calculated daily as the sum of each consecutive 365-day period.

f. The emergency diesel engine gen-sets (Ref. Nos. EG-POD 11 through EG-POD 16 and EG-POD 18), combined, shall consume no more than 169,124 gallons of diesel fuel oil per year calculated daily as the sum of each consecutive 365-day period.

Compliance for the consecutive 365-day period shall be demonstrated daily by adding the total for the most recently completed calendar day to the individual daily totals for the preceding 364 days.
(9VAC5-80-1180) [7/16/24]

EMISSION LIMITS

12. **Emission Limits (Hourly) –** Emissions from the operation of each engine gen-set shall not exceed the limits specified below:

Unit(s)	NO_X (as NO_2) (lb/hr)	CO (lb/hr)	VOC (lb/hr)	$PM_{10/2.5}$ (lb/hr)
EG-POD 1 through EG-POD 3	38.90	3.50	0.90	0.30
EG-POD 4	48.10	6.20	1.10	0.40
EG-POD 5 with SCR *	6.37	3.95	1.13	0.57
EG-POD 5 without SCR **	42.45	3.95	1.13	0.57
EG-POD 6 through EG-POD 9 with SCR *	10.58	14.28	2.87	0.90

Unit(s)	NO_X (as NO_2) (lb/hr)	CO (lb/hr)	VOC (lb/hr)	$PM_{10/2.5}$ (lb/hr)
EG-POD 6 through EG-POD 9 without SCR **	70.56	14.28	2.87	0.90
EG-POD 11 through EG-POD 16 and EG-POD 19	58.51	6.05	2.87	1.27
EG-POD 18	19.40	2.79	0.34	0.23

* These limits apply only to NO_X (as NO_2) during the hours that SCR is operating.
** These limits apply only to NO_X (as NO_2) during the hours that SCR is not operating.

Compliance with these pollutant emission limits shall be based on the proper operation and maintenance of the emergency diesel engine gen-sets or by testing, if required. (9VAC5-50-260 and 9VAC5-80-1180) [7/16/24]

13. **Emission Limits (Annual) –** Emissions from the operations of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 19) shall not exceed the limits specified below:

Unit(s)	NO_X (as NO_2) (tpy)	CO (tpy)	VOC (tpy)	$PM_{10/2.5}$ (tpy)
EG-POD 1 through EG-POD 4; EG-POD 5 through EG-POD 9**; EG-POD 11 through EG-POD 16; EG-POD 18; and EG-POD 19	84.19	31.93	11.41	2.57
EG-POD 5**	2.12	0.20	0.06	0.03
EG-POD 5*	1.27	0.79	0.23	0.11
EG-POD 6 through EG-POD 9**	17.64	3.57	0.72	0.23
EG-POD 6 through EG-POD 9*	10.58	14.28	2.87	0.90
EG-POD 11 through EG-POD 16 and EG-POD 18	23.03	13.09	5.48	1.09

* These limits apply to emissions resulting from operations when the SCR is operating.
** These limits apply to emissions resulting from operations when the SCR is not operating.

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with the annual pollutant emission limits may be determined as stated in Conditions 1, 11, and 12.
(9VAC5-80-1180) [7/16/24]

14. **Emission Limits (Facility-Wide) –** Emissions from the operations of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall not exceed the limits specified below:

Units	NO_X (tpy)	CO (tpy)	VOC (tpy)	$PM_{10/2.5}$ (tpy)
EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19	96.04	47.00	14.51	3.58

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with the annual pollutant emission limits may be determined as stated in Conditions 1, 11, 12, and 13.
(9VAC5-80-1180) [7/16/24]

15. **Visible Emission Limit –** Visible emissions from each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall not exceed 5 % opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 10 % opacity as determined by the EPA Reference Method 9 (40 CFR 60, Appendix A).

During startup and shutdown, visible emissions form each engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall not exceed 10% opacity except during one six-minute period in any one-hour in which visible emissions shall not exceed 20% opacity as determined by EPA Reference Method 9 (40 CFR, Appendix A)
(9VAC5-80-1180, 9VAC5-50-260, and 9VAC5-170-160) [7/16/24]

INITIAL COMPLIANCE DETERMINATION

16. **Stack Test –** Initial performance tests shall be conducted on the emergency diesel engine gen-set (Ref. No. EG-POD 19) for NO_X (as NO_2) and CO using appropriate EPA reference methods as approved by the Regional Air Compliance Manager of the DEQ's NRO to determine compliance with the emission limits contained in Condition 12.

    a. Emissions testing of each pollutant for the emergency diesel engine gen-set shall consist of three (3) one-hour test runs under load. The average of the three (3) runs shall be reported as the short-term emission rate for that emergency diesel engine gen-set;

    b. Testing shall be performed on the exhaust stack of the emergency diesel engine gen-set to demonstrate compliance with the NO_X and CO emission limits specified in Condition 12. Testing shall be conducted with the emergency diesel engine gen-set

operating at ≥ 90 percent of its rated capacity, unless multiple load band testing is approved by DEQ;

c. Recorded emergency diesel engine gen-set operational information shall include, but not be limited to:

i. Generator load/kilowatt output.

ii. Fuel consumption and fuel sulfur content of the diesel fuel oil.

d. Perform testing to demonstrate compliance within 120 days after the integration operational period has commenced. The integration operational period is defined as: the period of time beginning with the first time the affected unit is started on-site and ending when the affected unit is fully integrated with the source electrical system. If this deadline falls within the ozone season (May 1 through September 30), the facility shall perform testing to demonstrate compliance within 30 days after the end of the ozone season. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30;

e. The details of the tests are to be arranged with the Regional Air Compliance Manager of DEQ's NRO. The permittee shall submit the test protocol to the Regional Air Compliance Manager of DEQ's NRO, at least 30 days prior to testing to ensure adequate time for DEQ approval. If the test protocol is received by the DEQ with less than 30 days for review and acceptance, DEQ approval may not be issued in a timely manner to allow for testing to take place according to the permittee's schedule;

f. Should conditions occur which would require rescheduling the testing, the permittee shall notify the Regional Air Compliance Manager of DEQ's NRO, in writing, within seven (7) days of the scheduled test date or as soon as the rescheduling is deemed necessary; and

g. Two (2) copies (one (1) paper copy and one (1) electronic copy) of the test results shall be submitted to the Regional Air Compliance Manager, DEQ's NRO within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9VAC5-50-30 and 9VAC5-80-1200) [7/16/24]

17. **Visible Emissions Evaluation –** Concurrent with the initial performance tests required in Condition 16, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall also be conducted by the permittee on the emergency diesel engine gen-sets selected for initial performance testing. The details of the tests are to be arranged with the Regional Air Compliance Manager of DEQ's NRO. The permittee shall submit a VEE protocol in conjunction with the initial stack test protocol required by Condition 16, at least 30 days prior to testing.

a. Should conditions prevent concurrent opacity observations, the Regional Air Compliance Manager of the DEQ's NRO shall be notified in writing, within seven (7) days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same operating conditions as the initial performance tests.

b. Two (2) copies of the test result (one (1) hard copy and one (1) electronic copy) shall be submitted to the Regional Air Compliance Manager of the DEQ's NRO within 60 days after test completion and shall conform to the test report format enclosed with this permit (Attachment A).

(9VAC5-50-30 and 9VAC5-80-1200) [7/16/24]

CONTINUING COMPIANCE DETERMINATION

18. **Facility Construction –** The emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall be constructed so as to allow for emissions testing upon reasonable notice at any times, using appropriate methods. This includes constructing the facility/equipment such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing a stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.
(9VAC5-50-30 F and 9VAC5-80-1180) [7/16/24]

19. **Emission Testing/Visible Emissions Evaluation –** Upon request by the DEQ, the permittee shall conduct stack tests and/or VEEs of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager of the DEQ NRO.
(9VAC5-80-1200 and 9VAC5-50-30 G) [7/16/24]

RECORDS

20. **On Site Records –** The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to:

a. Monthly logs of monitoring device observations as required by Conditions 2 and 3.

b. Hourly average of NO_X concentration (in ppm) measured at the inlet and outlet of the SCR exhaust catalyst of the engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9), for each hour that the engine gen-sets are operated.

c. Hourly average NO_X control efficiency (in %) calculated from the inlet and outlet NO_X concentrations of the SCR exhaust catalyst of the engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9), for each hour that the engine gen-sets are operated.

d. Hourly average SCR catalyst bed exhaust temperature of each hour that each SCR equipped engine gen-set (Ref. Nos. EG-POD 5 through EG-POD 9) is operated.

e. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19), calculated monthly as the sum of each consecutive 12-month period, to verify compliance with the operating limitations in Condition 8.

f. Monthly and annual hours of operation of each emergency diesel engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) for purposes of scheduled maintenance checks and readiness testing, calculated monthly as the sum of each consecutive 12-month period.

g. Daily and annual consumption of diesel fuel of each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19), calculated daily as the sum of each consecutive 365-day period.

h. Daily and annual consumption of diesel fuel of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 4 and EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) for all operations and the emergency diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9) for operations when emissions are not controlled by SCR, combined, calculated daily as the sum of each consecutive 365-day period, to verify compliance with Condition 11.a.

i. Daily and annual consumption of diesel fuel of the emergency diesel engine gen-set (Ref. No. EG-POD 5) for operations when emissions are not controlled by SCR, combined, calculated daily as the sum of each consecutive 365-day period, to verify compliance with Condition 11.b.

j. Daily and annual consumption of diesel fuel of the emergency diesel engine gen-set (Ref. No. EG-POD 5) for operations when emissions are controlled by SCR, combined, calculated daily as the sum of each consecutive 365-day period, to verify compliance with Condition 11.c.

k. Daily and annual consumption of diesel fuel of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 6 through EG-POD 9), combined, for operations when emissions

are not controlled by SCR, combined, calculated daily as the sum of each consecutive 365-day period, to verify compliance with Condition 11.d.

l. Daily and annual consumption of diesel fuel of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 6 through EG-POD 9), combined, for operations when emissions are controlled by SCR, combined, calculated daily as the sum of each consecutive 365-day period, to verify compliance with Condition 11.e.

m. Daily and annual consumption of diesel fuel of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 11 through EG-POD 16, and EG-POD 18), combined, for operations when emissions are not controlled by SCR, combined, calculated daily as the sum of each consecutive 365-day period, to verify compliance with Condition 11.f.

n. Daily and annual emission calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the combined operation of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 4 and EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) for all operations and the emergency diesel engine gen-sets (Ref. Nos. EG-POD 5 through EG-POD 9) for operations when emissions are not controlled by SCR, calculated daily as the sum of each consecutive 365-day period.

o. Daily and annual emission calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the combined operation of the emergency diesel engine gen-set (Ref. No. EG-POD 5) for operations when emissions are not controlled by SCR, calculated daily as the sum of each consecutive 365-day period.

p. Daily and annual emission calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the combined operation of the emergency diesel engine gen-set (Ref. No. EG-POD 5) for operations when emissions are controlled by SCR, calculated daily as the sum of each consecutive 365-day period.

q. Daily and annual emission calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the combined operation of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 6 through EG-POD 9) for operations when emissions are not controlled by SCR, calculated daily as the sum of each consecutive 365-day period.

r. Daily and annual emission calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the combined operation of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 6 through EG-POD 9) for operations when emissions are controlled by SCR, calculated daily as the sum of each consecutive 365-day period.

s. Daily and annual emission calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the combined operation of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 11 through EG-POD 16 and EG-POD 18), calculated daily as the sum of each consecutive 365-day period.

t. Daily and annual emission calculations for NO_X (as NO_2), CO, VOC, PM_{10}, and $PM_{2.5}$ from the combined operation of the emergency diesel engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19), calculated daily as the sum of each consecutive 365-day period.

u. All fuel supplier certifications or the results of fuel sampling in accordance with permit Condition 10.

v. The manufacturer's written operating instructions or procedures developed by the owner/operator that are approved by the engine manufacturer for the engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19)

w. Results of all stack tests and visible emission evaluations.

x. Records of scheduled and unscheduled maintenance and operator training in accordance with permit Condition 25.

y. Records of changes in settings that are permitted by the manufacturer of the engine gen-sets (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19).

z. Records for emergency diesel engine gen-set operations, as necessary, to demonstrate compliance with the operating limitations of Condition 5, which includes but is not limited to: times, dates, and reasons for operation of each emergency diesel engine gen-set (Ref. Nos. EG-POD 1 through EG-POD 9, EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) that was operating between May 1 and September 30.

aa. To verify compliance with Condition 6, maintain records of:

    i. The forecasted AQI, as determined by the AirNow website for Northern Virginia, for ozone for the days that an emergency diesel engine gen-set operated during the integration operational period;

    ii. The measured AQI, as determined by the AirNow website for Northern Virginia, for ozone for the days that the emergency diesel engine gen-set operated during the integration operational period;

    iii. Documentation recording any Air Alerts issued for that operating day, as determined by AirNow-EnviroFlash; and

    iv. Details of commissioning activities, to include, but not limited to, clock hours and duration.

bb. Documentation from the manufacturer that each emergency diesel engine gen-set is certified to meet the EPA Tier 2 emissions standards.

cc. Engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement for each engine gen-set.

dd. Records of the reasons for operation for each engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) including but not limited to, the date, cause of operation, (cause of the emergency), (the ISO-declared emergency notification, and the hours of operation.

Compliance for the consecutive 12-month period (as applicable for the items above) shall be demonstrated monthly by adding the total for the most recently completed calendar month of the totals for the preceding 11 months.

Compliance for the consecutive 365-day period (as applicable for the items above) shall be demonstrated daily by adding the total for the most recently completed calendar day of the totals for the preceding 364 days.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-1180 and 9VAC5-50-50) [7/16/24]

NOTIFICATIONS

21. **Initial Notifications –** The permittee shall furnish written notification of the items below to the Air Compliance Manager of the DEQ NRO at the following address:

Regional Air Compliance Manager
Department of Environmental Quality
13901 Crown Court
Woodbridge, VA 22193

The permittee shall submit one notification for each building or construction phase containing information on each emergency diesel engine gen-set as described below:

a. The actual date on which installation of each emergency diesel engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) commenced in the building, within 30 days after such date. The notification must contain the following:

i. Name and address of the permittee,

ii. The address of the affected source,

iii. The date construction commenced.

b. The date that the integration operational period started for each emergency diesel engine gen-set (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) within 15 days after the last gen-set at each building completes its integration operational period. If a period of construction is paused or halted for ≥45 days this notification shall be provided to the DEQ within 15 days after completion of the integration operational period for the most recently installed engine gen-set. The notification must contain the following:

i. Engine information including make, model, engine family, serial number, model year, maximum engine power, engine displacement, fuel used;

ii. Installation date; and

iii. Integration operational period start and end dates.

For the purpose of this notification, the integration operational period is defined as: the period of time beginning with the first time the affected unit is started on-site and ending when the affected unit is fully integrated with the sources electrical system. In no case shall this period exceed 30 days.
(9VAC5-540-20) [7/16/24]

GENERAL CONDITIONS

22. **Permit Invalidation –** This permit to construct the emergency diesel engine gen-sets (Ref. Nos. EG-POD 11 through EG-POD 16, EG-POD 18, and EG-POD 19) shall become invalid, unless an extension is granted by the DEQ, if:

a. A program of continuous construction is not commenced within 18 months from the "Original Permit Date" specified in the equipment list in the introduction section of this permit.

b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time.

(9VAC5-80-1210)

23. **Permit Suspension/Revocation –** The Board may suspend or revoke any permit if the permittee:

a. Knowingly makes material misstatements in the permit application or any amendments to it;

b. Fails to comply with the conditions of this permit;

c. Fails to comply with any emission standards applicable to a permitted emissions unit;

d. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the implementation plan in effect at the time that an application is submitted; or

e. Fails to comply with the applicable provisions of 9VAC5-80-1100 *et seq.*

(9VAC5-80-1210 F and 9VAC5-80-1210 G)

24. **Right of Entry –** The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9VAC5-170-130 and 9VAC5-80-1180)

25. **Maintenance/Operating Procedures –** At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated monitoring devices and air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9VAC5-50-20 E and 9VAC5-80-1180 D)

26. **Record of Malfunctions –** The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.
(9VAC5-20-180 J and 9VAC5-80-1180 D)

27. **Notification for Facility or Control Equipment Malfunction –** The permittee shall furnish notification to the Regional Air Compliance Manager of the DEQ's NRO of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour. Such notification shall be made no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Regional Air Compliance Manager of the DEQ's NRO.
(9VAC5-20-180 C and 9VAC5-80-1180)

28. **Violation of Ambient Air Quality Standard –** Regardless of any other provision of this permit, the permittee shall, upon request of the DEQ, reduce the level of operation of the facility if the DEQ determines that is necessary to prevent a violation of any primary ambient air quality standard. Under worst-case conditions, the DEQ may order that the permittee shutdown the facility, if there is no other method of operation to avoid a violation of the ambient air quality standard. The DEQ reserves the right to prescribe the method of determining if a facility will cause such a violation. In such cases, the facility shall not be returned to operation until it and the associated air pollution control equipment are able to operate without violation of any primary ambient air quality standard.
(9VAC5-20-180 I and 9VAC5-80-1180)

29. **Change of Ownership –** In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current minor NSR permit issued to the previous owner. The new owner shall notify the Air Compliance Manager of the DEQ NRO of the change of ownership within 30 days of the transfer.
(9VAC5-80-1240)

30. **Permit Copy –** The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9VAC5-80-1180)

Attachment A

Source Testing Report Format

SOURCE TESTING REPORT FORMAT

Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No(s). used by source in permit or registration)
3. Test dates
4. Tester; name, address, and report date

Certification

1. Signed by team leader/certified observer (include certification date)
2. Signed by responsible company official
3. *Signed by reviewer

Copy of approved test protocol

Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity
4. *For each emission unit, a table showing:

a. Operating rate
b. Test Methods
c. Pollutants tested
d. Test results for each run and the run average
e. Pollutant standard or limit

5. Summarized process and control equipment data for each run and the average, as required by the test protocol
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
7. Any other important information

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Sampling port location and dimensioned cross section. Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

Test Results

1. Detailed test results for each run
2. *Sample calculations
3. *Description of collected samples, to include audits when applicable

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples
5. *Calibration procedures and results
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

* Not applicable to visible emission evaluations