



NRO-056-11

# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### NORTHERN REGIONAL OFFICE

13901 Crown Court, Woodbridge, Virginia 22193-1453

(703) 583-3800 Fax (703) 583-3821

[www.deq.virginia.gov](http://www.deq.virginia.gov)

David K. Paylor  
Director

Thomas A. Faha  
Regional Director

Douglas W. Domenech  
Secretary of Natural Resources

March 2, 2011

Mr. Tom Dubler  
Manager, Facilities and Real Estate  
Northrop Grumman Systems Corporation  
7575 Colshire Drive  
McLean, VA 22102

Registration No.: 73798

Dear Mr. Dubler:

Attached is a permit to operate four emergency diesel engine driven generator sets at your Northrop Grumman Systems Corporation, located at 7575 Colshire Drive, McLean, Virginia in accordance with the provisions of the Commonwealth of Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution.

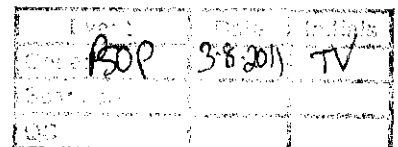
This permit contains legally enforceable conditions. Failure to comply may result in appropriate enforcement. Please read all permit conditions carefully.

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 November 9, 2011 and solicited written public comments by placing a newspaper advertisement in The Washington Examiner newspaper on January 28, 2011. A public hearing was not required to be held because of no public comments. The required comment period, provided by 9 VAC 5-80-1020 A expired on February 28, 2011.

This approval to operate shall not relieve Northrop Grumman Systems Corporation of the responsibility to comply with all other local, state, and federal permit regulations.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code (VAC) 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. 9 VAC 5-170-180 also provides that you may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. 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 of service of this decision (the date you actually received this decision 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:



Mr. Tom Dubler

March 2, 2011

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David K. Paylor, Director  
Department of Environmental Quality  
P. O. Box 1105  
Richmond, VA 23218

In the event that this decision is served on you by mail, three days are added to the 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 call the regional office at (703) 583-3858.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Darton", with a long horizontal flourish extending to the right.

Terry H. Darton  
Regional Permit Manager

TAF/THD/TMV/11-056-SOP

Attachments: Permit

Source Test Report Format

cc: Director, OAPP (electronic file submission)  
Manager/Inspector, Air Compliance, NRO



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# **COMMONWEALTH of VIRGINIA**

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Director

Thomas A. Faha  
Regional Director

### **STATIONARY SOURCE PERMIT TO OPERATE**

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

Northrop Grumman Systems Corporation  
7575 Coleshire Drive  
McLean, VA 22102  
Registration No.: 73798

is authorized to operate

Four emergency engine generator sets

located at

7575 Coleshire Drive  
McLean, VA 22102

in accordance with the Conditions of this permit.

Approved on

March 2, 2010

A handwritten signature in black ink, appearing to read "Thomas A. Faha".

Thomas A. Faha  
Regional Director

Permit consists of 11 pages.  
Permit Conditions 1 to 25.

## **INTRODUCTION**

This permit approval is based on the permit application dated September 22, 2010. 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 9 VAC 5-10-20 and 9 VAC 5-80-810 of the State Air Pollution Control Board (Board's) Regulations for the Control and Abatement of Air Pollution (Regulations). The regulatory reference or authority for each condition is listed in parentheses () after each condition.

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 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

## **PROCESS REQUIREMENTS**

### **1. Equipment List -**

Equipment installed prior to the date of this permit				
Reference No.	Equipment Description	Rated Capacity	Federal Requirements	Installation Date
1	Cummins NTA-855-G5 Emergency Generator	400 kW	NA	2000
2	Cummins NTA-855-G5 Emergency Generator	400 kW	NA	2000
3	Caterpillar 3516B	2000 kW	NA	2000
4	Caterpillar 3516	1750 kW	NA	2005

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit unless the specifications are needed to form the basis for one or more of the other terms or conditions in the permit. (9 VAC 80-830 and 9 VAC 5-80-850)

- 2. Emission Controls** – Emissions from the diesel engine driven generator sets (Ref. No. 1-4) shall be controlled by the following:

Sulfur Dioxide (SO<sub>2</sub>) emissions shall be controlled by the use of low sulfur diesel fuel oil with a sulfur content not to exceed 0.0015% by weight.

Proper combustion for and visible emissions 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 degrade the air emissions from the engines.  
(9 VAC 5-80-850)

3. **Monitoring Device** – The engine generator sets (Ref. Nos. 1-4) shall be equipped with a non-resettable hour meter which measures the duration of time the engine is operated. Refer to Condition 16 for recordkeeping requirements to demonstrate compliance with this condition. (9 VAC 5-80-850 and 9 VAC 5-80-890)

### **OPERATING LIMITATIONS**

#### **4. Operating Scenarios for Diesel Engine Driven Generator Sets –**

a. **Emergency / Critical Power Generation:**

- i. **Emergency:** The diesel engine driven generator sets may be operated in situations where immediate action on the part of the facility is needed due to a failure or loss of electrical power service resulting from a failure of the primary power provider and the failure or loss of power service is beyond the reasonable control of the facility. Operation under these circumstances shall be allowed for the period of time the primary electrical power provider service is unavailable. Once primary electrical power provider service is available the diesel engine driven generator sets may be operated in accordance with Critical Power Generation as defined below.
- ii. **ISO-Declared Emergency:** The engine generator sets may be operated for participation in an Independent System Operator's (ISO) Emergency Load Response Program (ELRP) during times of a ISO-declared emergency, as defined in the ISO's emergency operations manual. Operations under this scenario shall not exceed 60 hours per generator each calendar year.
- iii. **Critical Power Generation:** The diesel engine driven generator sets may be operated in situations where immediate action on the part of the facility is needed due to a loss or anticipated loss of acceptable electrical power service from the primary provider and the loss or anticipated loss of power service is beyond the reasonable control of the facility. Operation under these circumstances shall be allowed until such time as acceptable power provider service is restored or the loss of acceptable power provider service is no longer reasonably anticipated.

- b. **Alternate Power Generation:** Except as specified in subsection 4.c below, diesel engine driven generator sets may be operated voluntarily for the purposes of peak-shaving, demand response, or as part of an interruptible power supply arrangement with a power provider, other market participant, or system operator only if the engine is equipped with a selective catalytic reduction system (SCR) that achieves the manufacturer's guaranteed maximum emission reductions based on fuel type. Operations, as outlined in this subsection, shall be allowed when the diesel engine driven generator sets is

operating at a load level necessary to sustain urea injection. Prior to construction of the SCR unit, when changing from Emergency Power or Critical Power Generation to Alternate Power Generation, the permittee shall submit appropriate documentation to the Department of Environmental Quality (DEQ), and receive DEQ approval for the change in the method of operation of the diesel engine driven generator sets to ensure that the facility remains in compliance with the appropriate permitting requirements.

- c. The diesel engine driven generator sets may be operated for periodic maintenance, testing, and operational training.

Total emissions for any twelve month period, calculated as the sum of all emissions from operations under scenarios 4.a. through 4.c above, shall not exceed the limits stated in Condition 5.

(9 VAC 5-80-850)

- 5. **Operating Hours** – The operating hours for each diesel engine driven generator set (Ref. No 1-4) shall each be less than 500 hours per year, calculated monthly as the sum of each consecutive twelve month period. Refer to Condition 16 for recordkeeping requirements to demonstrate compliance with this condition.

(9 VAC 5-80-850)

- 6. **Operation of the diesel engine driven generator sets** – The permittee must operate and maintain the diesel engine driven generator sets and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer.

(9 VAC 5-80-850)

- 7. **Fuel Specification** – The approved fuel for the diesel engine driven generator set shall be diesel fuel oil that meets the specifications below:

**DIESEL FUEL OIL:**

- a. Does not exceed the American Society for Testing and Materials (ASTM) specification, D975, for grade 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 forty or maximum aromatic content of thirty-five volume percent.

Exceedance of these specifications may be considered credible evidence of an exceedance of emission limits. A change in the fuel type or the fuel sulfur content may require a permit to modify and operate.

(9 VAC 5-80-850)

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

- a. The name of the fuel supplier; and
- b. The date on which the diesel fuel oil was received; and

- c. The quantity of diesel fuel oil delivered in the shipment; and
- d. A statement that the diesel fuel oil conforms to the requirements of the Condition 7 - Fuel Specification; or
- e. Alternatively, the permittee shall obtain approval from the Regional Air Compliance Manager (RACM) of the DEQ's Northern Regional Office (NRO), at the address in Condition 15, if other documentation will be used to certify the diesel fuel oil type.
- f. The sulfur content of the of diesel fuel oil.

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 8.  
(9 VAC 5-80-850 and 9 VAC 5-80-890)

### **EMISSION LIMITS**

9. **Emission Limits** – Diesel engine driven generator set - Hourly emissions from the operation of the diesel engine driven generator set (Ref. Nos. 1-4) shall not exceed the limits specified below:

<b>Pollutant</b>	<b>GENERATOR 1 &amp; 2</b>	<b>GENERATOR 3</b>	<b>GENERATOR 4</b>
PM - 10	0.31 lbs/hr	0.70 lbs/hr	0.40 lbs/hr
Sulfur Dioxide	0.70 lbs/hr	21.7 lbs/hr	18.4 lbs/hr
Nitrogen Oxides (as NO <sub>2</sub> )	10.20 lbs/hr	27.60 lbs/hr	52.40 lbs/hr
Carbon Monoxide	2.90 lbs/hr	2.70 lbs/hr	9.11 lbs/hr
Volatile Organic Compounds	1.30 lbs/hr	1.90 lbs/hr	1.60 lbs/hr

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.  
(9 VAC 5-80-850)

10. **Annual Diesel Engine Driven Generator Set Emission Limits** – Total emissions from the diesel engine driven generator set (Ref. Nos. 1-4) shall not exceed the limits specified below:

Nitrogen Oxides (as NO <sub>2</sub> )	24.40 tons/yr
Carbon Monoxide (CO)	3.90 tons/yr
Volatile Organic Compounds (VOC)	0.77 tons/yr

Particulate Matter (PM-10)

0.40 tons/yr

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.  
(9 VAC 5-80-850)

11. **Visible Emission Limit** – Visible emissions from the diesel engine driven generator set (Ref. Nos. 1-4) shall not exceed twenty percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed thirty percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.  
(9 VAC 5-80-850)
12. **Stack Tests** – Upon request by the DEQ, the permittee shall conduct performance testing of the diesel engine driven generator set (Ref. Nos. 1-4) to demonstrate compliance with the emission limits contained in Condition 9. The details of the tests shall be arranged with the RACM of the DEQ's NRO at the address listed in Condition 15.  
(9 VAC 5-80-850)
13. **Visible Emissions Evaluation** – Upon request by the DEQ, the permittee shall conduct visible emission evaluations on the diesel engine driven generator set (Ref. Nos. 1-4) to demonstrate compliance with the visible emission limits contained in this permit. The details of the VEE shall be arranged with the RACM of the DEQ's NRO at the address listed in Condition 15 should additional testing be requested.  
(9 VAC 5-80-850)
14. **Testing/Monitoring Ports** – The facility shall be (constructed or modified) so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested by the DEQ at the appropriate locations and safe sampling platforms and access shall be provided.  
(9 VAC 5-80-850)

#### **RECORDS AND NOTIFICATIONS**

15. **Correspondences** – All correspondence concerning this permit should be submitted to the designated individual at the following address -

Regional Air Compliance Manager (RACM)  
Department of Environmental Quality  
Northern Regional Office  
13901 Crown Court  
Woodbridge, VA 22193  
(9 VAC 5-80-850)

16. **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 RACM of the DEQ's NRO at the address listed in Condition 15.

These records shall include, but are not limited to:

- a. A monthly log shall be maintained of all hours the engine generator sets (Ref # 1-4) are operated, and shall provide the corresponding dates and reason the unit was operated, as defined in Condition 4
- b. Annual hours of operation for the engine generator set, calculated monthly as the sum of each consecutive twelve month period, to demonstrate compliance with the requirements of Condition 5. Compliance for the consecutive twelve month period shall be demonstrated monthly by adding the total for the most recent calendar month to the individual monthly totals for the proceeding eleven months.
- c. All fuel supplier certifications per Condition 8.
- d. A copy of the maintenance schedule and records of scheduled and unscheduled maintenance in accordance with Condition 20.
- e. Operator training in accordance with Condition 20.
- f. Annual emissions calculations for the facility, calculated monthly as the sum of each consecutive twelve month period, to demonstrate compliance with the requirements of Condition 10. Compliance for the consecutive twelve month period shall be demonstrated monthly by adding the total for the most recent calendar month to the individual monthly totals for the proceeding eleven months.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years, unless otherwise noted.  
(9 VAC 5-80-900)

## **GENERAL CONDITIONS**

### **17. Certification of Documents –**

- a. The following documents submitted to the Board shall be signed by a responsible official: (i) any emission statement, application, form, report, or compliance certification; (ii) any document required to be signed by any provision of the regulations of the Board; or (iii) any other document containing emissions data or compliance information the owner wishes the Board to consider in the administration of its air quality programs. A responsible official is defined as follows:
  - i. For a business entity, such as a corporation, association or cooperative, a responsible official is either:

- (1) The president, secretary, treasurer, or a vice president of the business entity in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the business entity; or
  - (2) A duly authorized representative of such business entity if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either (i) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars) or (ii) the authority to sign documents has been assigned or delegated to such representative in accordance with procedures of the business entity.
- ii. For a partnership or sole proprietorship, a responsible official is a general partner or the proprietor, respectively.
- b. Any person signing a document under subsection a. above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
  - c. Subsection b. shall be interpreted to mean that the signer must have some form of direction or supervision over the persons gathering the data and preparing the document (the preparers), although the signer need not personally nor directly supervise these activities. The signer need not be in the same line of authority as the preparers, nor do the persons gathering the data and preparing the form need to be employees (e.g., outside contractors can be used). It is sufficient that the signer has authority to assure that the necessary actions are taken to prepare a complete and accurate document.
  - d. Any person who fails to submit any relevant facts or who has submitted incorrect information in a document shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.
- (9 VAC 5-20-230)
- 18. 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 terms or conditions of this permit;

- c. Fails to comply with any emission standards applicable to an emissions unit included in this permit;
- 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 9 VAC 5-80-1100 et seq. (9 VAC 5-80-1010)

**19. 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.  
(9 VAC 5-170-130 and 9 VAC 5-80-850)

**20. 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 any associated 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, with respect to (Ref. Nos. 1-4).

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

- c. 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.  
(9 VAC 5-80-850 and 9 VAC 5-80-900)

- 21. Notification for Facility or Control Equipment Malfunction** – In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable, but no later than four business hours after the malfunction was discovered, notify the RACM.  
(9 VAC 5-20-180 C and 9 VAC 5-80-850)

- 22. Notification for Control Equipment Maintenance** – The permittee shall furnish notification to the RACM of the DEQ's NRO (at the address listed in Condition 15) in case of shutdown, bypassing, or both, of air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour. The intent to shutdown or bypass such equipment shall be reported to the RACM of the DEQ's NRO and the local air pollution control agency, if any, at least twenty four hours prior to the planned shutdown. Such prior notice shall include, but is not limited to:

- a. Identification of air pollution control equipment to be taken out of service, as well as it's location and registration number;
- b. The expected length of time the air pollution control equipment will be out of service;
- c. The nature and quantity of emissions of air pollution likely to occur during the shutdown period; and
- d. Measures that will be taken to minimize the length of shutdown or to negate the effect of the outage.  
(9 VAC 5-20-180 C and 9 VAC 5-80-850)

- 23. 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 if the DEQ determines that it is necessary to prevent a violation of any primary ambient air quality standard. Under worst case conditions, the DEQ may order the permittee to shut down 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.  
(9 VAC 5-20-180 I and 9 VAC 5-80-850)

- 24. Change of Ownership** – In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner

shall notify the RACM of the DEQ's NRO at the address listed in Condition 15 of the change of ownership within 30 days of the transfer.  
(9 VAC 5-80-940)

25. **Permit Copy** – The permittee shall keep a copy of this permit on the premises of the facility to which it applies.  
(9 VAC 5-80-860 E)

## SOURCE TESTING REPORT FORMAT

### Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. 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