



NVRO-195-06

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN VIRGINIA REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3801
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

Jeffery A. Steers
Regional Director

October 19, 2006

Mr. David P. Leland
Regional Environmental Representative
Verizon Business
2400 North Glenville Drive
Richardson, TX 75082

Location: Manassas, VA
Registration No.: 73200

Dear Mr. Leland:

Attached is a minor amendment to your permit to construct and operate seven diesel engine-driven emergency generators at your computer data center located in Manassas, Virginia, in accordance with the provisions of the Commonwealth of Virginia State Air Pollution Control Board's (Board's) Regulations (Regulations) for the Control and Abatement of Air Pollution.

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.

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 October 11, 2006.

This permit approval to construct and operate shall not relieve Verizon Business 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 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the Board within thirty days after this case decision notice was mailed or delivered to you. 9 VAC 5-170-200 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.

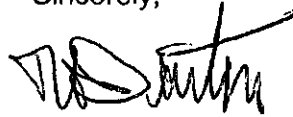
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

David K. Paylor, 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 the regional office at (703) 583-3800.

Sincerely,



Terry H. Darton
Regional Air Permit Manager

THD/MCL/06195mnsr

Attachments: Permit
Source Testing Report Format

cc: Director, OAPP (electronic file submission)
Manager, Data Analysis (electronic file submission)
Regional Air Compliance Manager (electronic file submission)
Chief, Air Enforcement Branch (3AP12), U.S.EPA, Region III



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STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE This permit includes designated equipment subject to New Source Performance Standards (NSPS)

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

Verizon Business
2400 North Glenville Drive
Richardson, TX 75082
Registration No.: 73200

is authorized to construct and operate

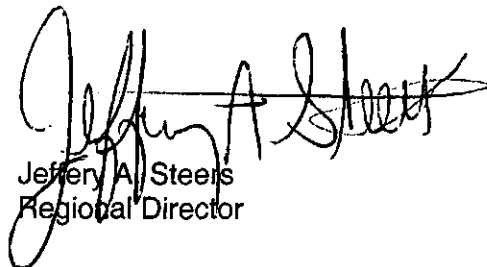
seven diesel engine-driven emergency generators
at the computer data center

located at

7400 Infantry Ridge Road
Manassas, Virginia 20109

in accordance with the Conditions of this permit.

Approved on October 19, 2006.



Jeffery A. Steers
Regional Director

Permit consists of 11 pages.
Permit Conditions 1 to 27.

INTRODUCTION

This permit approval is based on the permit application dated July 12, 2006, including amendment information dated August 29, 2006, September 5, 2006, and October 3, 2006, and permit application dated May 14, 2001, including amendment information dated June 26, 2001. 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 5-80-1110 and 9 VAC 5-10-10 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.

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 Board's 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 at this facility consists of the following:

Equipment to be operated:			
Reference No.	Equipment Description	Rated Capacity	Federal Requirements
EGU1 thru EGU3	Three Caterpillar model 3516B diesel engine-driven emergency generators	2848 brake horsepower or 2000 ekW, each	N/A
AST1-1 Thru AST1-3	Three above ground diesel fuel storage tanks	12,000 gallon, each	N/A
Equipment to be installed and operated after January 2007:			
EGU4 thru EGU7	Four Caterpillar model 3516B diesel engine-driven emergency generators	2848 brake horsepower or 2000 ekW, each	NSPS Subpart IIII

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.
 (9 VAC 80-1180 D 3)

2. Emission Controls

- a. Oxides of Nitrogen (NO_x) emissions from each diesel engine shall be controlled by Caterpillar's low emission "B" package.
- b. Sulfur Dioxide (SO₂) emissions from each diesel engine shall be controlled by the use of low sulfur diesel fuel.
- c. Carbon Monoxide (CO) emissions from each diesel engine shall be controlled by good combustion practices.
- d. Visible emissions from each diesel engine shall be controlled by good operating practices.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

3. Monitoring Devices – Each emergency generator shall be equipped with a device to continuously measure engine operating hours. If compliance with the annual NO_x emission limit is determined using the calculation method specified in Condition 11b, then each emergency generator shall also be equipped with a device to continuously measure and record engine load:

- a. The monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations.
- b. The monitoring device shall be provided with adequate access for inspection and shall be in operation when the engine is operating.
- c. The monitoring device used to record engine load shall record the data at a frequency of not greater than fifteen (15) minute intervals during the operation of each emergency generator.

(9 VAC 5-80-1180 D)

OPERATING LIMITATIONS

4. Operating Limits:

- a. If compliance with the facility-wide NO_x emission limit, Condition 10, is determined using the calculation method specified in Condition 11a, the cumulative hours of operation for all emergency generators (Ref. # EGU 1 through EGU 7) shall be limited to 2279 hours per year, 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 for the most recently completed calendar month to the individual monthly totals for the preceding 11 months
- b. If compliance with the facility-wide NO_x emission limit, Condition 10, is determined using the method specified in Condition 11b, the annual NO_x emission limit of 46.9 TPY shall be the limiting factor. Annual NO_x emissions shall be calculated on a monthly basis as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-1180)

5. **Fuel** - The approved fuel for the emergency generators (Ref. #EGU1 thru EGU7) is grade low sulfur diesel fuel. A change in the fuel may require a permit to modify and operate. (9 VAC 5-80-1180)

6. **Fuel** - The fuel shall meet the specifications below:

DIESEL FUEL OIL which meets the American Society for Testing and Materials specification, D975, for grade low sulfur numbers 1 or 2 diesel fuel oil:

Maximum sulfur content per shipment: 0.05%
(9 VAC 5-80-1180 and 9 VAC 5-50-260)

7. **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;
- b. The date on which the diesel fuel oil was received;
- c. A statement that the diesel oil complies with the American Society for Testing and Materials specification, D975, for grade low sulfur numbers 1 or 2 diesel fuel oil;
- d. The sulfur content of the diesel fuel oil.
(9 VAC 5-80-1180)

8. **Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, the NSPS equipment as described in Condition 1 shall be operated in compliance with the requirements of 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines..
(9 VAC 5-80-1180, 9 VAC 5-50-400 and 9 VAC 5-50-410)

EMISSION LIMITS

9. **Process Emission Limits** – Short-term emissions from the operation of each emergency generator (Ref. #EGU1 thru EGU7) shall not exceed the limits specified below:

	<u>Each Generator</u>
Nitrogen Oxides (as NO2)	41.2 lbs/hr
Carbon Monoxide	4.0 lbs/hr
Volatile Organic Compounds	1.1 lbs/hr
PM-10	0.9 lbs/hr
Sulfur Dioxide	0.9 lbs/hr

The emission rates are derived from the manufacturer data on emissions at maximum design capacity of the diesel engines and their operating limits to determine the overall emission contribution. Compliance with the sulfur dioxide emissions limit shall be based on the fuel sulfur content and the fuel supplier certification, as stated in Condition numbers 5, 6 and 7. Compliance with the hourly nitrogen oxides (as NO₂) emission limit shall be demonstrated by stack testing, as stated in Condition 14. Compliance with the other pollutant limits shall be based on the proper operation and maintenance of the diesel engines or by testing, if required. Exceedance of the operating limits may be considered credible evidence of the exceedance of the emission limits.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)

10. **Facility wide NOx Emission Limit** - The total emissions of nitrogen oxides, expressed as nitrogen dioxide (NO₂), from the operation of all seven emergency generators shall not exceed:

$$\text{NOx} = 46.9 \text{ tons/year.}$$

Compliance shall be demonstrated in accordance with Conditions 4 and 11.
(9 VAC 5-50-260)

11. **NOx Emissions Calculations** – To demonstrate compliance with the NOx emission limit provided in Condition 10, the permittee shall calculate annual NOx emissions on a monthly basis in accordance with one of the two following methods, or by a method approved in advance by the Air Compliance Manager, Northern Virginia Regional Office.

- a. NOx emission shall be calculated as the product of engine operating time, in hours, from all emergency generators, as specified in Condition 16a, and the manufacturer's emission rate of 41.16 lbs/hr, regardless of actual engine load:

OR

- b. NOx emissions shall be calculated as the product of engine operating time, in hours, and an emission factor selected based on the one-hour average engine load for each engine, as monitored and recorded in accordance with Condition 3, for each hour of operation. For one-hour average engine loads the following emission factors shall be used:

<u>% Engine Load Range</u>	<u>Emission Factor</u>
0 to 25%	13.20 lbs/hr
26 to 50%	20.85 lbs/hr
51 to 75%	30.88 lbs/hr
76 to 100%	41.16 lbs/hr

The NOx emission factor is derived from the manufacturer's Performance and Technical Data sheet provided with the application dated May 15, 2001, with the engine operating at maximum rated capacity.

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

12. **Visible Emission Limit** - Visible emissions from each emergency generator (Ref. # EGU1 thru EGU7) 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 Method 9 (reference 40 CFR 60, Appendix A). During startup and shutdown, visible emissions shall not exceed 10% opacity, except for one six-minute interval not to exceed 20% opacity.

(9 VAC 5-80-1180, 9 VAC 5-50-260 and 9 VAC 5-170-160)

13. **Emissions Testing** - The emergency generators (Ref. # EGU1 thru EGU7) shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested at the appropriate locations in accordance with EPA Reference Method 1 (reference 40 CFR Part 60, Appendix A). In addition, safe sampling platforms and access shall be provided.

(9 VAC 5-50-30 F and 9 VAC 5-80-1180)

INITIAL COMPLIANCE DETERMINATION

14. **Stack Test** - Initial performance tests shall be conducted for nitrogen oxides (as NO₂) on two of the emergency generators, Ref #'s EGU1 and EGU3, and on at least 50% of the remaining units to be installed (Ref. # EGU4 thru EGU7), using an EPA approved reference method in Appendix A of 40 CFR 60. Testing shall be performed to verify the accuracy of the emission factor of 41.2 lbs/hr at 100% load, and recorded information shall include, but not be limited to, engine load, and fuel consumption rate.

The tests shall be performed and reported to demonstrate compliance within 180 days after start-up of the permitted equipment. The permittee shall submit to the address listed in Condition 16, one copy of the test protocol to the Air Compliance Manager and one copy to the Air Permit Manager no later than 30 days prior to testing. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the Air Compliance Manager, Northern Virginia Regional Office.

Two copies of the test results shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-50-30 and 9 VAC 5-80-1200)

15. **Visible Emissions Evaluation** - Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted by the permittee on emergency generator Ref. # EGU2 and on 50% of the remaining units (Ref. # EGU4 thru EGU7) which

do not stack test. Testing shall be performed on the exhaust stack from each engine operating at 100% load, to determine compliance with Condition 12.

Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The evaluation shall be performed and reported to demonstrate compliance within 180 days after start-up of the permitted equipment. The permittee shall submit a test protocol no later than 30 days prior to testing. The details of the tests are to be arranged with the Air Compliance Manager, Northern Virginia Regional Office.

Two copies of the test results shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office at the address listed in Condition 16 within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-50-30 and 9 VAC 5-80-1200)

RECORDS

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 Air Compliance Manager, Northern Virginia Regional Office (NVRO) of the DEQ at the following address:

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

These records shall include, but are not limited to:

- a. Monthly hours of operation of each emergency generator (Ref. # EGU1 thru EGU7).
- b. Monthly engine load rates for each engine and corresponding hours of operation, should the calculation method specified in Condition 11b be used to determine annual NOx emissions. Engine load shall be recorded as a percent, on the engine of each emergency generator.
- c. Data and calculations necessary to demonstrate compliance with Condition 4 and Condition 10.
- d. All fuel supplier certifications.
- e. Results of all stack tests and visible emission evaluations.
- f. Scheduled and unscheduled maintenance.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-1180 and 9 VAC 5-50-50)

NOTIFICATIONS

- 17. Initial Notifications** - The permittee shall furnish written notification to the Air Compliance Manager, Northern Virginia Regional Office at the address listed in Condition 16 of:
- a. The actual date on which construction of each emergency generator (Ref. # EGU4 thru EGU7) commenced within 30 days after such date.
 - b. The anticipated start-up date of each emergency generator (Ref. # EGU1 thru EGU7) postmarked not more than 60 days nor less than 30 days prior to such date.
 - c. The actual start-up date of each emergency generator (Ref. # EGU1 thru EGU7) within 15 days after such date.
 - d. The anticipated date of performance tests of each emergency generator (Ref. # EGU1 thru EGU7) postmarked at least 30 days prior to such date.
 - e. The anticipated date of installation of the monitoring device used to measure and record engine load, as specified in Condition 3, thirty (30) days prior to such date.
(9 VAC 5-50-50 and 9 VAC 5-80-1180)

GENERAL CONDITIONS

18. 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:

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

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.

- iii. For a municipality, state, federal, or other public agency, a responsible official is either a principal executive officer or ranking elected official. A principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of the principal geographic unit of the agency.
- 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 singer 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 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.
(9 VAC 5-20-230)

19. Permit Invalidation - This permit to install and operate the seven diesel engine-driven emergency generators (Ref. # EGU1 thru EGU7) shall become invalid, unless an extension is granted by the DEQ, if:

- a. A program of continuous construction is not commenced within the latest of the following:
 - i. Eighteen months from the date of this permit;
 - ii. Nine months from the date that the last permit or other authorization was issued from any other governmental entity;
 - iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or
- b. A program of construction is discontinued for a period of eighteen months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.
(9 VAC 5-80-1210)

20. Permit Suspension/Revocation - This permit may be suspended or revoked 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
- e. Fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.

(9 VAC 5-80-1210 F)

21. 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 5-80-1180)

22. 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 air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

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

- 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.

Records of maintenance shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-50-20 E and 9 VAC 5-80-1180 D)

- 23. 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.
(9VAC 5-20-180 J and 9 VAC 5-80-1180 D)
- 24. Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Air Compliance Manager, Northern Virginia Regional Office at the address listed in Condition 16, of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but 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 two weeks 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 Air Compliance Manager, Northern Virginia Regional Office.
(9 VAC 5-20-180 C and 9 VAC 5-80-1180)
- 25. Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I and 9 VAC 5-80-1180)
- 26. 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 Air Compliance Manager, Northern Virginia Regional Office at the address listed in Condition 16 of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-1240)
- 27. Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-1180)

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