



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

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Dennis H. Treacy  
Director

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### COMMONWEALTH OF VIRGINIA OPERATING PERMIT

### 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,

Virginia Power  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

Registration No. 70225  
County-Plant No. 153-0002

is authorized to operate

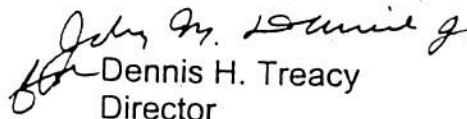
located at

an electric power generating station

19000 Possum Point Road  
Dumfries, Virginia  
(Prince William County)

in accordance with the Conditions of this permit and all other applicable permits and regulations of the State Air Pollution Control Board.

Approved on July 21, 2000

  
Dennis H. Treacy  
Director

Permit consists of 6 pages.  
Permit Conditions 1 to 16.

PERMIT CONDITIONS - the regulatory reference and authority for the condition is listed in parentheses ( ) after each condition.

1. This permit establishes source-specific emission standards and/or other requirements to implement reasonably available control technology (RACT) as required by 9 VAC 5-40-310 and 9 VAC 5-40-311 of the State Air Pollution Control Board's Regulations.  
(9 VAC 5-80-800 C.2.b of State Regulations)
2. Equipment subject to 9 VAC 5 Chapter 40, Article 4 and RACT requirements pursuant to Section 182 of the federal Clean Air Act consists of:
  - two Combustion Engineering, oil-fired utility boilers (Units #1 and #2) nominally rated at  $1,000 \times 10^6$  Btu/hr heat input each;
  - one Combustion Engineering, coal-fired utility boiler (Unit #3) nominally rated at  $1,150 \times 10^6$  Btu/hr heat input;
  - one Combustion Engineering, coal-fired utility boiler (Unit #4) nominally rated at  $2,350 \times 10^6$  Btu/hr heat input;
  - one Combustion Engineering, oil-fired utility boiler (Unit #5) nominally rated at  $8,500 \times 10^6$  Btu/hr heat input;
  - six General Electric Model MS5001L, oil-fired combustion turbines (Combustion Turbines #1 through #6) nominally rated at  $245 \times 10^6$  Btu/hr heat input each.
3. Nitrogen oxides ( $\text{NO}_x$ ) emissions from the Unit #3 boiler shall be controlled by permanent shutdown of the unit or by modification of the unit and/or switch in fuel type such that the heat input based emission rate, as an average for each calendar day, will not exceed the applicable limit found in Table 4-4C of 9 VAC 5-40-311 of the State Air Pollution Control Board regulations for this type of boiler. (For face and tangentially-fired boilers the applicable limit in pounds of  $\text{NO}_x$  per million Btu's of heat input would be 0.20 for gas firing only, 0.25 for gas and/or oil firing, and 0.38 for coal firing if the boiler is "dry bottom.")  
(9 VAC 5-40-310 and 9 VAC 5-40-311 of State Regulations)
4. Compliance with Condition 3 is required from May 1 through September 30 of each year and shall begin no later than May 1, 2003. Beginning 30 days after notification that the permit has been approved for inclusion into the SIP, compliance shall be achieved throughout the year. Until the time that compliance with Condition 3 begins, the unit shall continue to meet the  $\text{NO}_x$  emission limit of 0.54 pounds of  $\text{NO}_x$  per million Btu's of heat input (averaged over each calendar day) that is proposed in the RACT compliance letter from Virginia Power dated October 4, 1996 and was



approved by DEQ in letter to Virginia Power dated October 31, 1996. Compliance with the 0.54 pounds of NO<sub>x</sub> per million Btu's is required from May 1 through September 30 of each year. Beginning 30 days after notification that the permit has been approved for inclusion into the SIP, compliance shall be achieved throughout the year, averaged over each calendar day. The other provisions of the October 4, 1996 letter shall no longer be binding beginning 30 days after this permit is signed into effect.

(9 VAC 5-80-850 F. 10. of State Regulations)

5. Nitrogen oxides (NO<sub>x</sub>) emissions from the Unit #4 boiler shall be controlled by use of low NO<sub>x</sub> burners and the emissions of NO<sub>x</sub> (as NO<sub>2</sub>), as an average for each calendar day, shall not exceed the applicable limit found in Table 4-4C of 9 VAC 5-40-311 of the State Air Pollution Control Board regulations for this type of boiler. (For face and tangentially-fired boilers the applicable limit in pounds of NO<sub>x</sub> per million Btu's of heat input would be 0.20 for gas firing only, 0.25 for gas and/or oil firing, and 0.38 for coal firing if the boiler is "dry bottom.")  
(9 VAC 5-40-310 and 9 VAC 5-40-311 of State Regulations)
6. Beginning 30 days after this permit is signed into effect, compliance with Condition 5 is required from May 1 through September 30 of each year until 30 days after notification that the permit has been approved for inclusion into the SIP, after which time compliance shall be achieved throughout the year. (9 VAC 5-40-310 G. and 9 VAC 5-80-850 F. 11. of State Regulations)
7. Nitrogen oxides (NO<sub>x</sub>) emissions from the Unit #5 boiler shall be controlled by use of tangential firing, separate overfire air, and flue gas recirculation, and the emissions of NO<sub>x</sub> (as NO<sub>2</sub>) shall not exceed the applicable limit found in Table 4-4C of 9 VAC 5-40-311 of the State Air Pollution Control Board regulations for this type of boiler for gas or oil firing on a 30-day rolling average. (For face and tangentially-fired boilers the applicable limit in pounds of NO<sub>x</sub> per million Btu's of heat input would be 0.20 for gas firing only and 0.25 for gas and/or oil firing).  
(9 VAC 5-40-310 and 9 VAC 5-40-311 of State Regulations)
8. Beginning 30 days after this permit is signed into effect, compliance with Condition 7 is required from May 1 through September 30 of each year until 30 days after notification that the permit has been approved for inclusion into the SIP, after which time compliance shall be achieved throughout the year.  
(9 VAC 5-40-310 G. and 9 VAC 5-80-850 F. 11. of State Regulations)
9. Prior to 30 days after notification that the permit has been approved for inclusion into the SIP, compliance with the 30-day rolling average specified in condition 7 shall be calculated daily by averaging the emissions of the last 30 days that the boiler operated at least one hour or more during an ozone season. At the beginning of each ozone season, the last 29 days that the unit operated in the prior ozone

season shall be carried forward to establish the current ozone season 30-day rolling average. Thirty (30) days after notification that the permit has been approved for inclusion into the SIP the 30-day rolling average shall be determined using the last 30 days that the boiler operated at least one hour or more.  
(9 VAC 5-40-310)

10. Compliance with Conditions 3, 5 and 7 of this permit shall be demonstrated by continuous monitoring of the flue gas from each affected unit. The monitor shall meet the requirements of 40 CFR Part 75. The data will be processed in accordance with the requirements of 40 CFR Part 60. A report presenting the results of the monitoring shall be periodically submitted to the DEQ Regional Office. The details of the monitoring, recordkeeping and reporting shall be prescribed by DEQ within 60 days following the issuance of this permit and shall be incorporated into the Title V permit. The permittee may propose details of the monitoring, recordkeeping and reporting to DEQ before DEQ fulfills the requirement to prescribe them within 60 days.  
(9 VAC 5-40-380 and 9 VAC 5-40-390)
11. Exempted from the requirements of 9 VAC 5 Chapter 40, Article 4 for both volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are the following:
  - a. Process operations with a process weight rate capacity less than 100 pounds per hour;
  - b. Any combustion unit using solid fuel with a maximum heat input of less than 350,000 Btu per hour;
  - c. Any combustion unit using liquid fuel with a maximum heat input of less than 1,000,000 Btu per hour;
  - d. Any combustion unit using gaseous fuel with a maximum heat input of less than 10,000,000 Btu per hour.

(9 VAC 5-40-240 of State Regulations)
12. Equipment specifically exempted from demonstrating RACT for NO<sub>x</sub> includes the following:
  - a. Any stationary internal combustion engine with a rated capacity of less than 450 hp of output power;
  - b. Any incinerator with a maximum capacity of less than 50 tons of waste per day;



- c. Any incinerator or thermal or catalytic oxidizer used exclusively as air pollution control equipment;
- d. Any generator used solely to supply emergency power to buildings during periods when normal power supplies are interrupted and during periods of scheduled maintenance; and,
- e. Any steam generating unit process heater or gas turbine with an annual capacity factor of less than 5.0%.

Units which are not otherwise exempt from 9 VAC 5-40 Article 4 and the RACT requirements pursuant to Section 182 of the federal Clean Air Act (therefore, listed in Condition 2), but are exempt from a RACT demonstration by this provision are:

- two Combustion Engineering, oil-fired utility boilers (Units #1 and #2) nominally rated at  $1,000 \times 10^6$  Btu/hr heat input each;
- six General Electric Model MS5001L, oil-fired combustion turbines nominally rated at  $245 \times 10^6$  Btu/hr heat input each.

(9 VAC 5-40-311 of State Regulations)

13. At all times, including periods of startup, shutdown and malfunction, all units or processes, including those exempted by any conditions above, shall be maintained and operated to the extent possible in a manner consistent with good air pollution control practice of minimizing emissions.  
(9 VAC 5-40-20 and 9 VAC 5-170-160 of State Regulations)
14. The permittee shall maintain the following records and documents to demonstrate compliance with this permit:
  - Data for the reports required by Condition 10.
  - Sufficient documentation to support claims that units on site are exempted under Condition 12.

The format of such records shall be arranged with the Regional Air Compliance Manager. These records shall be available on site for inspection by the DEQ and shall be current for the most recent three years.  
(9 VAC 5-80-900 of State Regulations)
15. In the event of any change in control of ownership of the permitted source, the permittee shall notify the succeeding owner of the existence of this permit by letter and send a copy of that letter to the Regional Compliance Manager.

(9 VAC 5-80-940 of State Regulations)

16. A copy of this permit shall be maintained on the premises of the facility to which it applies.  
(9 VAC 5-80-860 of State Regulations)