



*Commonwealth of Virginia*

**VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY**

NORTHERN REGIONAL OFFICE  
13901 Crown Court, Woodbridge, Virginia 22193  
(703)583-3800 FAX (703) 583-3821

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

Matthew J. Strickler  
Secretary of Natural Resources

David K. Paylor  
Director  
(804) 698-4000

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,

Covanta Fairfax, Inc.  
9898 Furnace Road  
Lorton, Virginia 22079  
Registration No.: 71920

is authorized to operate

a municipal solid waste combustor facility

located at

9898 Furnace Road  
Lorton, Virginia 22079  
(Fairfax County)

in accordance with the Conditions of this permit.

Approved on February 8, 2019.

A stylized blue signature consisting of a large 'C' followed by two horizontal bars.

Thomas A. Faha  
Regional Director

Permit consists of 9 pages.  
Permit Conditions 1 to 26.

**INTRODUCTION/PURPOSE**

This permit is, (i) for the purpose of implementing the "reasonably available control technology" (RACT) requirements of 9VAC5-40-7420 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution ("Regulations"), and (ii) establishes control technology and other requirements for the control of nitrogen oxides (NOx) emissions from Covanta Fairfax, Inc. (CFI) in the Northern Virginia Ozone Non-Attainment Area and the Ozone Transport Region in Virginia. These RACT requirements shall be the legal and regulatory basis for control of NOx emissions from this facility. In addition, this facility may be subject to additional applicable requirements not listed in this permit.

Words or terms used in this permit shall have meanings as provided in 9VAC5-10-20 of the Regulations. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

The availability of information submitted to the Department of Environmental Quality (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 State Air Pollution Control Board 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 subject to RACT requirements consist of the following:

<b>Emission Unit ID</b>	<b>Equipment Description</b>	<b>Rated Capacity</b>	<b>Pollutant(s)*</b>
001-01	Ogden-Martin MSW Combustor with Martin-Stoker boiler system (Began commercial operation in June 1990)	343.75 MMBtu/hr (heat input)	NOx
002-01	Ogden-Martin MSW Combustor with Martin-Stoker boiler system (Began commercial operation in June 1990)	343.75 MMBtu/hr (heat input)	NOx
003-01	Ogden-Martin MSW Combustor with Martin-Stoker boiler system (Began commercial operation in June 1990)	343.75 MMBtu/hr (heat input)	NOx
004-01	Ogden-Martin MSW Combustor with Martin-Stoker boiler system (Began commercial operation in June 1990)	343.75 MMBtu/hr (heat input)	NOx

\* Pollutant(s) listed for each specified emission unit is only as 9VAC5-40-7420 applies.

## **PROCESS REQUIREMENTS**

1. **Emission Control** - Upon completion of the installation and optimization period per Conditions 2 and 3, respectively, nitrogen oxides (NO<sub>x</sub>) emissions from each municipal waste combustor (MWC) (Ref. 001-01 through 004-01) shall be controlled by furnace design, proper operation, ammonia injection (selective non-catalytic reduction (SNCR)), and the Covanta proprietary low NO<sub>x</sub> combustion system (LN<sup>TM</sup>). Until that time, the NO<sub>x</sub> emissions shall be controlled by furnace design, proper operation, and ammonia injection (SNCR). The SNCR and LN<sup>TM</sup> system shall be provided with adequate access for inspection and shall be in operation when each municipal waste combustor (Ref. 001-01 through 004-01) is operating.  
(9VAC5-80-850 and 9VACS-40-7420)
  
2. **Emission Controls** - The permittee shall install the Covanta proprietary low NO<sub>x</sub> combustion system (LN<sup>TM</sup>) on the MWCs (Ref. 001-01 through 004-01) on a staged basis. The installation shall be completed according to the following schedule;
  - a. The LN<sup>TM</sup> system installed on the first MWC no later than the end of the 2<sup>nd</sup> quarter 2019,
  - b. The LN<sup>TM</sup> system installed on the second MWC no later than the end of the 4<sup>th</sup> quarter 2019,
  - c. The LN<sup>TM</sup> system installed on the third MWC no later than the end of the 4<sup>th</sup> quarter 2020, and
  - d. The LN<sup>TM</sup> system installed on the fourth MWC no later than the end of the 4<sup>th</sup> quarter 2021.  
(9VAC5-80-850 and 9VACS-40-7420)
  
3. **Emission Controls** -Following the installation of each LN<sup>TM</sup> system on the MWCs, (Ref. 001-01 through 004-01) there shall be no more than a 180-day testing and optimization period for the respective unit. Completion of the testing/optimization period would mark the start of the revised NO<sub>x</sub> emission limits as specified in Condition 4.  
(9VAC5-80-850 and 9VACS-40-7420)

## **EMISSION LIMITS**

4. **Process Emission Limits** -No later than the testing and optimization of the LN<sup>TM</sup> system on each of the MWCs (Ref. 001-01 through 004-01), as referenced in Condition 3 above, NO<sub>x</sub> emissions from such MWC shall not exceed the following:
  - a. Daily Average Nitrogen Oxides  
110 ppmvd @ 7% O<sub>2</sub>.
  - b. Annual Average Nitrogen Oxides  
90 ppmvd @ 7% O<sub>2</sub>.
  - c. The daily average is defined as the hourly rolling average of all hourly average emission concentrations (i.e. 24 hourly averages in a 24-hour period). The 24-hour average calculation should exclude those periods in which no waste was being combusted, when the MWC was not

on-line or during periods of startup, shutdown or malfunction.

- d. The annual average emissions shall be calculated on a daily basis using the daily average comprising all operating days in the year. Compliance for the annual average period shall be demonstrated daily by averaging the most recently completed daily average with the preceding yearly daily average emissions. The 24-hour average used for the annual average calculation shall begin at 12:00 midnight and continue to the following 12:00 midnight.

Compliance with these emission standards shall be determined by continuous emissions monitors (CEMS) or performance tests.

Compliance with the annual average nitrogen oxide emission limit for each MWC shall begin upon completion of 12 calendar months after the date of this permit, or 12 calendar months following the installation, testing and optimization of the LN™ system on the respective MWC, whichever is later for that unit.

(9VAC5-80-850 and 9VAC5-40-7420)

## **MONITORING**

5. **CEMS-A** continuous emission monitoring system (CEMS) consisting of a nitrogen oxides (NO<sub>x</sub>) pollutant concentration monitor, an oxygen (O<sub>2</sub>) diluent monitor, and an automated data acquisition and handling system meeting the applicable design specifications of 40 CFR Part 60, Appendix B shall be installed to measure and record the emissions of NO<sub>x</sub> from each MWC (Ref. 001-01 through 004-01) exhaust stack as ppmvd, corrected to 7% O<sub>2</sub>. The CEMS shall be installed, calibrated, maintained, audited and operated in accordance with the requirements of 40 CFR 60.13, 40 CFR 60, Appendices Band F, as applicable, or DEQ approved procedures which are equivalent to the requirements of 40 CFR §60.13 and 40 CFR 60, Appendices B and F, as applicable. Data shall be reduced to one-hour averages and 24-hour rolling averages using procedures approved by the Air Compliance Manager of the DEQ's Northern Regional Office (NRO). The span value for the NO<sub>x</sub> monitor shall be 125 percent of the maximum estimated hourly potential NO<sub>x</sub> emissions of the MWC unit and the O<sub>2</sub> monitor shall be 25 percent O<sub>2</sub>. Each CEM shall be provided with adequate access for inspection and shall be in operation when the MWC (Ref. 001-01 through 004-01) is operating.  
(9VAC5-80-850 and 9VAC5-40-7420)
6. **CEMS Quality Control Program** - A CEMS quality control program which meets the requirements of 40 CFR §60.13 and 40 CFR Part 60, Appendix F shall be implemented for all continuous monitoring systems, except that Relative Accuracy Test Audits (RATAs) may be required less frequently if approved by DEQ.  
(9VAC5-80-850 and 9VAC5-40-7420)
7. **CEMS Valid Data Collection** - At a minimum, valid NO<sub>x</sub> CEMS hourly averages shall be obtained as specified below for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that each MWC unit is combusting MSW.
  - a. At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.

- b. Each NO<sub>x</sub> 1-hour arithmetic average shall be corrected to 7 percent O<sub>2</sub> on an hourly basis using the 1-hour arithmetic average of the O<sub>2</sub> CEMS data.

(9 VAC 5-80-890 and 9VAC5-40-8140 G)

8. **CEMS Data-All** valid NO<sub>x</sub> CEMS data shall be used in calculating emission averages even if the minimum CEMS data requirements of Condition 7 are not met.  
(9VACS-80-890 and 9VACS-40-8140 G)

### **TESTING**

9. **Emission Testing-** Each municipal waste combustor (Ref. 001-01 through 004-01) shall be constructed/modified/installed to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility/equipment such that volumetric flow rates and pollutant emission rates are accurately determined by applicable test methods. The permittee shall provide sampling ports when requested at the appropriate locations and safe sampling platforms provided.  
(9VAC5-80-850, 9VACS-80-880, and 9VACS-40-7490)

### **RECORDS**

10. **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 of the DEQ's NRO. These records shall include, but are not limited to;
  - a. All 1-hour average NO<sub>x</sub> emission concentrations as specified in Conditions 4 and 7.
  - b. All 24-hour daily arithmetic average NO<sub>x</sub> emission concentrations as specified in Condition 4.
  - c. All annual NO<sub>x</sub> emission concentrations as specified in Condition 4.
  - d. Each calendar date for which the minimum number of hours of any of the NO<sub>x</sub> data have not been obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.
  - e. The NO<sub>x</sub> emission data, or operational data that have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data.
  - f. The permittee shall record the results of daily drift tests, quarterly accuracy determinations, percent operating time, and RATA for NO<sub>x</sub> and O<sub>2</sub> CEMS, as applicable, as required under 40 CFR Part 60, Appendix F, Procedure 1.
  - g. Scheduled and unscheduled maintenance and operator training.

The records shall be maintained onsite in either paper copy or computer-readable format, unless the Air Compliance Manager of the DEQ's NRO approves an alternative format and shall be available on-site for inspection by DEQ for a period of at least five years.  
(9VAC5-80-850, 9VAC5-80-900, and 9VAC5-40-7510)

## **NOTIFICATIONS**

- 11. Emission Controls** - The permittee shall submit to the Regional Air Compliance Manager of DEQ's NRO, a notification of the dates of the commencement and completion of the installation of the LN™ systems on each MWC (Ref. 001-01 through 004-01), postmarked no later than 30 days after such dates, or no later than 30 days after the date of this permit, whichever is later.  
(9VAC5-80-850, 9VAC5-80-900 and 9VAC5-7510)
- 12. Emission Controls** -The permittee shall submit to the Regional Air Compliance Manager of DEQ's NRO the date of the completion of the testing/optimization period for each MWC, postmarked no later than 30 days after such date, or no later than 30 days after the date of this permit, whichever is later.  
(9VAC5-80-850, 9VAC5-80-900 and 9VAC5-7510)

## **REPORTING**

- 13. CEMS Reports** - The permittee shall furnish written reports to the Air Compliance Manager of the DEQ's NRO of excess emissions from any process monitored by a CEMS on a quarterly basis, postmarked no later than the 30<sup>th</sup> day following the end of the calendar quarter. These reports shall include, but are not limited to the following information:
- a. The magnitude of excess emissions, any conversion factors used in the calculation of excess emissions, and the date and time of commencement and completion of each period of excess emissions;
  - b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the process, the nature and cause of the malfunction (if known), the corrective action taken or preventative measures adopted;
  - c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, other quality assurance (as required in 40 CFR 60, Appendix F) and the nature of the system repairs or adjustments; and
  - d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in that report.
- (9VAC5-80-850 and 9VACS-40-7420)

- 14. NO<sub>x</sub> Emissions Reporting** - The permittee shall submit semi-annual reports to the Regional Air Compliance Manager of DEQ's NRO for each semi-annual period that emissions exceed the limits of Condition 4. The periods covering each semi-annual period shall be January 1 through June 30 and July 1 through December 31.  
(9VAC5-80-900)
- 15. NO<sub>x</sub> Emissions Reporting** - The permittee shall submit the data reports required in Condition 14 no later than March 1 and September 1 of each year following the semiannual period in which the data were collected, unless otherwise approved by the Air Compliance Manager of the DEQ's NRO.  
(9VAC5-80-900)

### **GENERAL CONDITIONS**

- 16. Permit Limitations** - Except to the extent that conditions in this permit may be more stringent, this permit does not supersede or replace any other valid permit, regulatory or statutory requirement. Furthermore, this approval to operate shall not relieve Covanta Fairfax, Inc. (CFI) of the responsibility to comply with all other local, state and federal regulations, including permit regulations.  
(9VAC5-80-850)
- 17. Federal Enforceability**- Once the permit is approved by the U.S. Environmental Protection Agency into the Commonwealth of Virginia State Implementation Plan, the permit is enforceable by EPA and citizens under the federal Clean Air Act.  
(9VAC5-80-850)
- 18. Permit Revision/Repeal**- The Board may revise (modify, rewrite, change or amend) or repeal this permit with the consent of CFI, for good cause shown by CFI, or on its own motion provided approval of the revision or repeal is accomplished in accordance with Regulations of the Board and the Administrative Process Act (§ 2.2-4000 *et seq.*). Such revision or repeal shall not be effective until the revision or repeal is approved by the U.S. Environmental Protection Agency following the requirements of 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans).  
(9VAC5-80-850)
- 19. Failure to Comply** - Failure by CFI to comply with any of the conditions of this permit shall constitute a violation of a Permit of the Board. Failure to comply may result in a Notice of Violation and civil penalty. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of orders as appropriate by the Board as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.  
(9VAC5-80-850)
- 20. 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.  
(9VACS-170-130 and 9VACS-80-850)

21. **Notification for Facility or Control Equipment Malfunction-**The permittee shall furnish notification to the Regional Air Compliance Manager of 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 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 Regional Air Compliance Manager of DEQ's NRO in writing.  
(9VACS-20-180 C and 9VACS-80-850)
22. **Violation of Ambient Air Quality Standard-**The permittee shall, upon reasonable 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.  
(9VACS-20-180 I and 9VACS-80-850)
23. **Maintenance/Operating Procedures** - At all times, including periods of start-up, shutdown, soot blowing, 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 the following measures in order to minimize the duration and frequency of excess emissions, with respect to each municipal waste combustor (Ref. 001-01 through 004-01) air pollution control equipment, and process equipment which affect such 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, as available.
- 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.

- e. 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.

(9VACS-50-20 E and 9VACS-80-850)

**24. Permit Suspension/Revocation-**This permit may be revoked 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 a permitted emissions unit;
- d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;
- e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time that an application for this permit is submitted;
- f. Fails to comply with the applicable provisions of Articles 6, 8 and 9 of

9VAC5 Chapter 80. (9VAC5-80-1010)

**25. 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 Regional Air Compliance Manager of DEQ's NRO of the change of ownership within 30 days of the transfer.  
(9VACS-80-940)

**26. Permit Copy-**The permittee shall keep a copy of this permit on the premises of the facility to which it applies.  
(9VACS-80-860 D)