COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
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Sent Via Email

Mr. Frank N. Capobianco
Facility Manager
Covanta Fairfax, Inc.
9898 Furnace Road
Lorton, VA 22079

Location: Fairfax County
Registration No. 71920

Subject: Covanta Fairfax, Inc. Facility – NO_X RACT

Dear Mr. Capobianco:

The Department of Environmental Quality (DEQ) has completed its preliminary review of Covanta Fairfax, Inc.'s (CFI) NO_X Reasonably Available Control Technology (RACT) analysis (revised September 2017) as it pertains to the four 750 ton per day municipal waste combustor (MWC) units at CFI's facility located at 9898 Furnace Road, Lorton, Virginia 22079.

Each of the four MWC units at the CFI facility is subject to a case-by-case RACT determination for nitrogen oxides in accordance with 9 VAC 5-40-7370 *et seq.* (Rule 4-51). Each unit is currently equipped with aqueous ammonia injection (selective non-catalytic reduction (SNCR)) for the control of nitrogen oxides (NO_X) and is subject to the following NOx emission limits:

- 205 parts per million by volume, dry (ppmvd) @ 7 percent oxygen (24-hour average);
- 206.3 pounds per hour; and
- 716.2 tons per year (tpy).

CFI evaluated NO_X control options including (1) the current SNCR systems, (2) the installation of Covanta's patented Low NO_X (LN^{TM}) combustion system in combination with

SNCR systems, (3) Very Low NO_X (VLN^{TM}) combustion system in combination with SNCR systems and (4) the installation of selective catalytic reduction (SCR). The RACT analysis stated that the VLN^{TM} system is not technically feasible for existing MWC units and was eliminated from further consideration. CFI also noted that further optimization of the current SNCR would be balanced against the potential for ammonia slip and integration with the LN^{TM} technology.

CFI analyzed the three remaining control technologies consistent with DEQ's RACT Analysis Guidelines and determined that the LN^{TM} combustion technology combined with the current (with possible optimization) SNCR is RACT for the MWC units. The analysis showed that implementation of this technology can reasonably achieve the following NO_X emission limits for each MWC:

- 90 ppmvd (7% O_2) on an annual average;
- 110 ppmvd (7% O_2) on a daily average; and
- 233 tons per year.

Based on DEQ's review of CFI's NO_X RACT analysis, DEQ considers the installation and operation of Covanta's LN^{TM} combustion technology, in combination with SNCR meeting the aforementioned NO_X emission limitations for each MWC, to meet the requirements of RACT as provided in Rule 4-51 and 40 CFR §51.100 (o). This is based on the following:

- In its RACT analysis, CFI has stated that installing and operating LN^{TM} with current SNCR on each MWC unit is technically and economically feasible.

- Covanta's Montgomery County, MD facility, which uses the same combustion technology as the MWC units at CFI, retrofitted those units with LN^{TM} in 2009, providing NOx emission rates and reductions comparable to the values proposed by CFI.

- Installation of LN^{TM} on each MWC unit at CFI would provide necessary NO_X reductions needed to improve air quality. The Northern Virginia/Metropolitan Washington D.C. Ozone Non-Attainment Area needs actual and significant emission reductions in order to achieve and maintain healthy air quality and compliance with both the 2008 and 2015 federal ozone National Ambient Air Quality Standards (NAAQS). Installation of LN^{TM} on the MWC units will result in actual and significant NO_X emission reductions.

- NO_X reductions from the MWC units at CFI will help Virginia meet Clean Air Act requirements regarding §110(a)(2)(D)(i)(I), also known as the "Good Neighbor" provisions. These provisions require that upwind states reduce their impacts on downwind areas.

DEQ is looking forward to working with CFI to install the LN^{TM} as RACT on the four MWC units. Timely implementation of this combustion technology in combination with the optimized SNCR systems will help Virginia meet its obligations to attain and maintain the NAAQS for ozone and is consistent with Covanta's longstanding commitment to operate in an environmentally responsible manner.

Under the new 2015 ozone standard, the four MWC units at CFI will again be subject to RACT requirements. Application of an emissions rate that reflects the use of LN™ in combination with SNCR on the four units as RACT for the 2008 ozone NAAQS may allow the use of a RACT certification in lieu of a full, top-down analysis for the MWC units' 2015 ozone NAAQS RACT obligation, pending EPA approval.

Regarding next steps, please provide DEQ's Northern Regional Office a complete permit application, including Form 7, for a state operating permit (per 9 VAC 5-80-800 C. 2) for the installation of LN™ on the four MWC units at CFI. This application submittal should also include a detailed compliance timeline for retrofitting the units. DEQ understands that CFI may have at least the first unit retrofitted with the LN™ technology and ready for testing/optimization prior to the beginning of the 2019 Ozone Season. Please confirm the timeline with your submittal.

To ensure expeditious processing of this permit, please supply this application as soon as practical, but not later than November 20, 2017. Timely processing of the RACT permit is essential to support DEQ's efforts to re-designate the Northern Virginia/Metropolitan Washington D.C. 2008 ozone NAAQS nonattainment area to maintenance/attainment for that standard as well as DEQ's efforts to improve air quality such that the area complies with the 2015 ozone NAAQS. Submittal of this application will ensure CFI's compliance with requirements in Rule 4-51.

As part of the processing of the state operating permit that will implement RACT for CFI, DEQ will notify you of any questions and/or deficiencies with the NOx RACT analysis and the permit application submittals that need to be addressed prior to completing the NO_X RACT action.

If you have any questions on the RACT process, please do not hesitate to contact James LaFratta by phone at 703-583-3928 or via email at james.lafratta@deq.virginia.gov.

Respectfully,

Thomas A. Faha
Regional Director

cc: Mr. Joe Walsh, Covanta
Mr. Michael Dowd, VDEQ