COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

September 29, 2017

Sent Via Email

Mr. Bryan Donnelly
Facility Manager
Covanta Alexandria/Arlington, Inc.
5301 Eisenhower Avenue
Alexandria, VA 22304

Location: City of Alexandria
Registration No. 71895

Subject: Covanta Alexandria/Arlington, Inc. Facility – NO_X RACT

Dear Mr. Donnelly:

The Department of Environmental Quality (DEQ) has completed its preliminary review of Covanta Alexandria/Arlington, Inc.'s (CAAI) NO_X Reasonably Available Control Technology (RACT) analysis (revised September 2017) as it pertains to the three 325 ton per day municipal waste combustor (MWC) units at CAAI's facility located at 5301 Eisenhower Avenue, Alexandria, VA 22304.

Each of the three MWC units at the CAAI 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);
- 0.55 pounds per million British Thermal Unit (lb/MMBtu); and
- 177 tons per year (tpy).

CAAI evaluated additional NO_X control options including (1) optimizing the current SNCR systems, (2) the installation of Covanta's patented Low NO_X (LN^{TM}) combustion system in combination with optimized SNCR systems, (3) Very Low NO_X (VLN^{TM}) combustion system in combination with optimized 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.

CAAI analyzed the three remaining control technologies consistent with DEQ's RACT Analysis Guidelines and determined that the LN^{TM} combustion technology combined with optimized 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
- 82 tons per year.

Based on DEQ's review of CAAI's NO_X RACT analysis, DEQ considers the installation and operation of Covanta's LN^{TM} combustion technology, in combination with optimized 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, CAAI has stated that installing and operating LN^{TM} with optimized 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 CAAI, retrofitted those units with LN^{TM} in 2009, providing NOx emission rates and reductions comparable to the values proposed by CAAI.

- Installation of LN^{TM} on each MWC unit at CAAI 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 CAAI 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 CAAI to install the LN^{TM} as RACT on the three 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 three MWC units at CAAI will again be subject to RACT requirements. Application of an emissions rate that reflects the use of LN™ in combination with optimized SNCR on the three 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 three MWC units at CAAI. This application submittal should also include a detailed compliance timeline for retrofitting the units. Note: Section 4.4.2.1 (page 4-13) of CAAI's NO_X RACT analysis appears to contain a discrepancy where it states that installation of LN™ on the first of the three CAAI units is proposed to commence with the scheduled fall 2019 outages (currently anticipated to occur September/October 2018). DEQ understands that CAAI 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 CAAI's compliance with requirements in Rule 4-51.

As part of the processing of the state operating permit that will implement RACT for CAAI, 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