




pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

MEMO

TO James D. Rebarchak  3/17/23
Manager, Air Quality Program
Southeast Regional Office

FROM Jing Y. Guo
Facilities Permitting Section JYG 3/17/2023
Air Quality Program

THROUGH Janine Tulloch-Reid, P.E. JET 3/17/2023
Engineering Manager, Permitting Section
Air Quality Program

DATE March 17, 2023

RE General Permit Review Memo
Covanta Delaware Valley, L.P. -
Delaware Valley Resource Recovery Facility (DVRRF)
General Permit No. GP9-23-0014
For Diesel Fired Internal Combustion Engines
City of Chester
Delaware County
APS ID: 1082919, AUTH ID: 1430175, PF ID: 484329

Application Overview

Covanta Delaware Valley, L.P. (Covanta) - Delaware Valley Resource Recovery Facility (DVRRF) operates six (6) rotary waterwall municipal waste combustors (Westinghouse Model RC170) (Source IDs 101 through 106), commenced in 1991. Each of the combustors has a capacity to burn 448 tons/day of municipal waste and to produce 161,000 lbs/hr of steam for power generation. This facility generates approximately 90 net megawatts of electricity per hour for internal use and to be sold on the electrical grid.

PECO Energy requested this facility to cease power transmission to the PECO grid from April 14 through April 30, 2023, to allow PECO to perform necessary upgrades to the PECO transformer system. During this period, this Covanta facility will operate in "Island Mode" - without power supply to and from the PECO grid. Covanta had determined that eleven (11) units of rental diesel fired engine generator sets are needed to maintain operation continuity in the event that their turbine trips when the facility is off the grid.

On March 10, 2023, Covanta submitted a BAQ-GPA/GP-9 (GP-9) application for installing and operating emergency generator set diesel fired internal combustion engines at their facility, located at 10 Highland Avenue, City of Chester, Delaware County. Each of the proposed emergency generator sets will operate for a maximum of 336 hours.

Application fee for GP-9 was received on March 14, 2023, as required under 25 Pa. Code Section 127.703(d).

Facility Description

This Covanta facility, with a SIC Code – 4953: Trans. & Utilities – Refuse Systems, and a NAICS code – 562213: Solid Waste Combustors and Incinerators, is a resource recovery facility.

The facility is limited to burn the following types of waste in the combustors:

- municipal waste, as defined in 25 Pa. Code § 287.1;
- municipal-like residual waste, as permitted in the Department's Waste Permit No. 400593, and the Miscellaneous Section of this permit; and
- residual waste, as permitted in the Department's Waste Permit No. 400593, and the Miscellaneous Section of this permit.

The residual waste (Form R waste list) accepted at the facility shall not exceed 500 tons per day, or 10 weight percent residual waste in the total amount of waste processed, whichever is higher.

This Covanta facility is classified as a major emission facility for the following requirements and/or pollutants:

- Prevention of Significant Deterioration (PSD) source for PM, NO_x, CO, VOC, and SO_x emissions;
- Nonattainment New Source Review (NNSR) source for NO_x and VOC emissions;
- Hazardous Air Pollutant (HAP) emissions source for individual HAP of HCl; and
- Greenhouse gas (GHG) (tailoring rule report as per 40 CFR Part 98) emissions.

It is located in an Environmental Justice Community, and an area designated as marginal non-attainment for ozone and moderate non-attainment for PM_{2.5}.

Proposed Diesel Fired Internal Combustion Engines

This GP-9 application is for installing and operating 11 units of emergency generator set diesel fired internal combustion engines when the facility operates in “Island Mode”. Source ID 150 is created in the DEP AIMS system for the proposed emergency generator diesel fired engine group. The proposed diesel fired engines are rated from 364 hp to 1517 hp, with US EPA emission certifications. Table 1 summarizes characteristics of each of the proposed diesel fired engines under Source ID 150.

Table 1 Proposed Emergency Generator Set Diesel Fired Engines (under Source ID 150)

Proposed Engines	A Engines	B Engine	C Engines
Number of Units	7	1	3
Capacity (each), hp	1517	364	1184.1
Manufacturer	Cummins	Cummins	AB Volvo Penta
Model No.	QSK50G4 CPL	QSL9-G2 NR3	GN1200GHPEM4
Fuel	Diesel	Diesel	Diesel
Emission certification	EPA Tier II	EPA Tier III	EPA Tier IV
NOx emission factor, gm/hp-hr	5.8	3.0	0.30
CO emission factor, gm/hp-hr	0.48	2.6	0.05
VOC emission factor, gm/hp-hr	0.09	-	0.01
PM emission factor, gm/hp-hr	0.03	0.15	0.01
Total operating days	Less than 20	Less than 20	Less than 20
Total operating hours	336	336	336
<i>Total NOx emissions, ton/yr</i>	<i>22.8</i>	<i>0.4</i>	<i>0.4</i>
<i>PTE Total Combined NOx emissions, ton/yr</i>	<i>23.6</i>		

Note: the permittee shall use diesel fuel which contains less than 0.3%wt sulfur.

This facility shall comply with all applicable requirements in the GP-9, specifically:

- Condition 6 of the GP-9 requires that the permittee shall provide a written notice to the Department of the completion of construction and the intent to commence operation at least five (5) working days prior to completion of construction;
- Operating hours for each diesel fired engines permitted under this GP-9 shall not exceed 336 hours; and
- Condition 9 of the GP-9 requires that the permittee shall comply with the monitoring, recordkeeping and reporting requirements.
- Condition 10 of the GP-9 applies to those engines with rated capacity greater than 1,000 hp.

Regulatory Analysis

Best Available Technology (BAT)

The proposed diesel fired engines meet the emission standards as specified in Condition 7.b of the GP-9. Compliance with the emission standards of the GP-9 fulfills the BAT requirements as specified in 25 Pa. Code § 127.1.

Standards of Performance for New Stationary Source (NSPS)

National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT)

The proposed diesel fired engines will be located at the site less than a year and do not meet “*stationary internal combustion engine*” definition as specified in 40 CFR § 60.4219 and 40 CFR §63.6675. Therefore, they are not subject to NSPS Subpart IIII and MACT Subpart ZZZZ.

There are no other applicable regulations for the proposed diesel fired engines.

Recommendation

I recommend issuance of the BAQ-GPA/GP-9(GP-9) to Covanta Delaware Valley, L.P. - Delaware Valley Resource Recovery Facility, City of Chester, Delaware County

This GP-9 will expire on December 31, 2023.

This GP-9 will not be incorporated into the facility Operating Permit (No. 23-00004).