



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director

DRAFT
STATEMENT OF LEGAL AND FACTUAL BASIS

Rappahannock Regional Solid Waste Management Board
Stafford, Stafford County, Virginia
Permit No. NRO40946

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9VAC5 Chapter 80, Rappahannock Regional Solid Waste Management Board has applied for renewal of the Title V Operating Permit for its Stafford County facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Writer: _____

Bruce Mullins
(276) 698-7335

Date: _____

Air Permit Manager: _____

Rob Feagins
Southwest Regional Office

Date: _____

Regional Director: _____

Jeffrey Hurst
Southwest Regional Office

Date: _____

FACILITY INFORMATION

Permittee

Rappahannock Regional Solid Waste Management Board (R-Board)
473 Eskimo Hill Road
Stafford, Virginia 22554

Facility

R-Board Sanitary Landfill
489 Eskimo Hill Road
Stafford, Virginia 22554

R-Board Identification Number: 51-179-00050

FACILITY DESCRIPTION

NAICS Code: 562212 – Municipal Solid Waste Landfill

The facility consists of a municipal solid waste (MSW) landfill (R-Board Landfill), operated by the Rappahannock Regional Solid Waste Management Board for the municipalities of Stafford County and the City of Fredericksburg, Virginia, and two landfill gas-fired reciprocating internal combustion engines (RICE), operated by Ameresco Stafford LLC. The R-Board Landfill and Ameresco are considered a single stationary source and together are a Title V major source of carbon monoxide (CO). The facility is located in an attainment area for all pollutants and is not a PSD major source. DEQ has registered the R-Board landfill under air facility registration number 40946, and Ameresco under air facility registration number 41050. Accordingly, DEQ also administers separate minor New Source Review (NSR) permits, as detailed later, for each of these entities.

The R-Board Landfill opened in 1968. The initial waste disposal area is not lined and is referred to as “old area 74.” The newer disposal areas are lined with clay and composite liners and designated as cells A through G. Landfill gas (LFG) is collected from the interior of the landfill by a series of vertical extraction wells and horizontal trenches installed at various depths. The extraction wells or trenches are connected to header pipes that direct the LFG for destruction by a Perennial Energy, Inc. (PEI) model FL-1483 open flare rated at 2000 standard cubic feet per minute (scfm) or routed to a treatment system for subsequent sale/use as fuel to generate electricity at the co-located Ameresco Stafford LLC facility. The LFG Specialties model CF62114 open flare, rated at 800 scfm was permanently shut down in 2020. The R-Board Landfill also includes a tub grinder for grinding vegetative waste to produce mulch, a compost trommel used to separate materials by size for composting, and an emergency generator for supplying electricity to the scale house when the primary power provider is down. The tub grinder is powered by a 760-brake horsepower (bhp) diesel engine. The compost trommel is powered by a 130 bhp diesel engine. The emergency generator is powered by 33 bhp propane-fired engine. Air pollutants expected from the landfill, open flare, tub grinder, compost trommel

and emergency generator include volatile organic compounds (VOC), nonmethane organic compounds (NMOC), particulate matter (PM10 & PM2.5), carbon monoxide (CO), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), total reduced sulfur (TRS), greenhouse gases (GHG), and hazardous air pollutants (HAP). The R-Board landfill currently operates under an NSR permit dated February 5, 2021, and Title V operating permit effective August 4, 2016.

Ameresco Stafford LLC County-Plant Identification Number: 51-179-00100

Facility Description: NAICS 221119 – Ameresco Stafford LLC operates a landfill gas to energy facility consisting of two GE Jenbacher model JGS 320 GS-LL engine-generator sets, each rated at 1,468 bhp and 1,060 electric kilowatts (kW), located at the R-Board Landfill. The engine-generator sets are fueled with LFG purchased from the R-Board Landfill to produce electricity for sale to the electric utility. Air pollutants expected from the engines include NO_x, SO₂, CO, VOC, PM10, and PM2.5. Ameresco currently operates under an NSR permit issued June 20, 2007, as amended March 27, 2015.

COMPLIANCE STATUS

A full compliance evaluation of the R-Board Landfill, including a site visit, was most recently conducted on June 29, 2023. All reports and other data required by permit conditions or regulations, which are submitted to the DEQ, have been evaluated for compliance. Based on these compliance evaluations, the R-Board Landfill has not been found to be in violation of any state or federal applicable air pollution control requirements at this time.

A full compliance evaluation, including a site visit, of the Ameresco Stafford LLC facility was most recently conducted on October 24, 2017. All reports and other data required by permit conditions or regulations, which are submitted to the DEQ, have been evaluated for compliance. Based on these compliance evaluations, Ameresco has not been found to be in violation of any state or federal applicable air pollution control requirements at this time.

EMISSION UNITS

Equipment to be operated at the R-Board Landfill facility (DEQ air registration no. 40946) consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
001	MSW Landfill	MSW Landfill Operations	8.71 million megagrams (Mg)	See Flares below	GCCS	NMOC	2/5/2021 NSR Permit
F002	002	Open Flare, Perennial Energy, Inc., model FL-1483	2000 cfm	(Considered landfill NMOC emission control device)	--	NMOC	2/5/2021 NSR Permit
005	005	W.H.O. Tub Grinder model P12-56XSHD with Caterpillar diesel engine model 3412	100 tons/hr; 760 bhp engine	--	--	--	2/5/2021 NSR Permit
006	006	McCloskey model 512 compost trommel with Caterpillar diesel engine model 3054C	130 bhp	--	--	--	--
EG-1	EG-1	Generac model G0067211 emergency generator with a propane-fired engine	33 bhp	--	--	--	--

*The Size/Rated capacity is provided for informational purposes only and is not an applicable requirement.

Equipment to be operated at the Ameresco Stafford LLC facility (DEQ air registration no. 41050) consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
003	003	GE Jenbacher Genset model JGS 320 GS-L.L (engine 1)	30 million Btu/hr; 1,468 bhp; 1,060 kW	--	--	--	6/20/2007, as amended 3/27/2015 NSR Permit
004	004	GE Jenbacher Genset model JGS 320 GS-L.L (engine 2)	30 million Btu/hr; 1,468 bhp; 1,060 kW	--	--	--	6/20/2007, as amended 3/27/2015 NSR Permit

*The Size/Rated capacity is provided for informational purposes only and is not an applicable requirement.

EMISSIONS INVENTORY

Emissions from the R-Board Landfill, as indicated in the DEQ Comprehensive Environmental Data System (CEDDS) for the year 2023, are summarized in the following table. Emissions of HAP are from the facility’s 2022 Emissions Statement. Emissions of GHG are expressed in carbon dioxide equivalent (CO_{2e}) as indicated by the EPA Facility Level Information on GreenHouse gases Tool (FLIGHT database) for the most recent available year (2022).

Criteria Pollutant, Hazardous Air Pollutant, and Greenhouse Gas Emissions from the R-Board Landfill in Tons/Year

Emissions	NMOC	VOC	CO	SO₂	PM10	PM2.5	NO_x	TRS	HAP	CO_{2e}
Total	31.97	12.55	36.59	0.68	0.76	0.76	3.09	0.79	5.94	22,637

Emissions from the Ameresco Stafford facility, as indicated in CEDDS for the year 2023, are summarized in the following table.

Criteria Pollutant Emissions from the Ameresco Stafford, LLC facility in Tons/Year

Emissions	VOC	CO	SO₂	PM10	NO_x
Total	0.21	1.17	0.21	0.33	1.91

R-BOARD LANDFILL EQUIPMENT REQUIREMENTS - Emission Unit ID: 001, 005, 006, F002, and EG-1

The R-Board Landfill has a design capacity greater than 2.5 million megagrams and 2.5 million cubic meters and was modified after May 30, 1991, but before July 18, 2014. Therefore, in accordance with 40 CFR 60.750(a), the R-Board Landfill is subject to the new source performance standards (NSPS) of 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills. The conditions of the underlying minor NSR permit for the facility incorporate all applicable requirements from Subpart WWW. The provisions of §60.750(d)(1) of Subpart WWW indicate an affected municipal solid waste landfill must continue to comply with the subpart until it becomes subject to the more stringent requirements in an approved and effective state or federal plan that implements 40 CFR Part 60 Subpart Cf. Virginia’s state plan at 9VAC5-40 Article 43.1 (Rule 4-43.1), which implements the federal emission guidelines in Subpart Cf, was approved by the EPA on June 23, 2020, and became effective on July 23, 2020. The R-Board Landfill is subject to the new rule. In accordance with the provisions of §60.750(d)(1), the requirements of Rule 4-43.1 implementing 40 CFR Part 60 Subpart Cf, are considered more stringent than the requirements of 40 CFR Part 60 Subpart WWW. Applicable requirements from both Rule 4-43.1 and the February 5, 2021, minor NSR permit are detailed in this Statement of Legal and Factual Basis.

The R-Board Landfill has a design capacity greater than 2.5 million megagrams and 2.5 million cubic meters, has accepted waste since November 8, 1987, and has estimated uncontrolled emissions of NMOC greater than 50 megagrams per year. Therefore, in accordance with 40 CFR 63.1935(a)(3), it is subject to the maximum achievable control technology (MACT) standards of 40 CFR 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The provisions of 40 CFR Part 63 are not administered through the Virginia minor NSR permitting program, and therefore, do not appear in the underlying minor NSR permit for the facility. However, applicable requirements from Subpart AAAA are detailed in this Statement of Legal and Factual Basis and included in the renewal Title V permit.

Pursuant to §60.750(d)(1) of Subpart WWW, all requirements from the minor NSR permit that are based on NSPS WWW are revised in the renewal Title V permit to the more stringent requirements from Rule 4-43.1 and MACT AAAA.

Citations

The following citations from the Virginia Administrative Codes identify the underlying authorities to implement the specific requirements determined to be applicable in the NSR permit dated February 5, 2021:

9VAC5-80-1180,	9VAC5-50-400,
9VAC5-50-410,	9VAC5-50-260,
9VAC5-50-90,	9VAC5-170-160,
9VAC5-80-1200,	9VAC5-50-30,
9VAC5-50-20,	9VAC5-40-5960,
9VAC5-50-50,	9VAC5-50-40,
9VAC5-80-1210,	9VAC5-170-130,
9VAC5-20-180, and	9VAC5-80-1240.

Limitations

The following limitations and referenced condition numbers are from the NSR permit dated February 5, 2021:

Condition 1: The MSW Landfill shall not accept more than 8.71 million megagrams (9.6 million tons) of municipal solid waste (MSW) for disposal at the landfill. An increase to this maximum amount of waste accepted by the landfill may require a new or amended permit.

Condition 2: The permittee shall update the facility landfill gas (LFG) collection and control system design plan, which describes the management of LFG generated at the facility, including LFG generated from waste to be placed in each additional cell of the landfill (Ref. No. 001). The design plan shall be prepared by a professional engineer and shall conform to the specifications for an active collection system as specified in Condition 3 of this permit. The design plan shall

include any proposed alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, record keeping or reporting provisions of this permit.

Condition 3: The permittee shall operate a landfill gas (LFG) collection and control system which:

- a. Is designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
- b. Collects gas from each area, cell, or group of cells in which initial solid waste has been in place for a period of:
 - i. Five years or more if active; or
 - ii. Two years or more if closed or at final grade;
- c. Collects gas at a sufficient extraction rate; upon maturation of the landfill and full implementation of the gas collection system, the gas collection system shall meet the requirements of 40 CFR 60.753;
- d. Is operated with each wellhead under negative pressure except as provided in 40 CFR 60.753(c)(2);
- e. Is operated with each interior wellhead in the collection system having a landfill gas temperature less than 55°C and having either:
 - i. A nitrogen content less than twenty percent, as determined by EPA Method 3C; or
 - ii. An oxygen content less than five percent, as determined by EPA Method 3A, or 3C, given exceptions listed in 40 CFR 60.753(c)(2);

The permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

Note: The NSPS WWW temperature limit in minor NSR permit condition 3.e. is revised to the new applicable temperature limit specified in MACT Subpart AAAA, and, since the more stringent requirements in MACT AAAA do not include nitrogen or oxygen content limits, the NSPS WWW limits for nitrogen and oxygen in minor NSR permit conditions 3e.i. and 3.e.ii. are not included in the renewal Title V permit.

- f. Is designed to minimize off-site migration of subsurface gas;

- g. Routes the collected landfill gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system is subject to the requirements listed in 40 CFR 60.752 (b)(2)(iii)(A) or (B); or
- h. Controls landfill gas emissions by routing the collected landfill gas to the open flare system (Ref. No. F002). The open flare(s) must meet the criteria in 40 CFR 60.18;
- i. Maintains the methane concentration at the surface of the landfill at less than 500 ppmv above the background level.

Condition 4: The permittee shall develop a surface monitoring design plan that includes a topographic map with the monitoring route around the perimeter of the collection area and along a pattern that traverses the landfill at 30-meter interval and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. The permittee shall conduct surface testing along the design plan route and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover, as stated in Condition 24.

Condition 5: The gas collection and control system installed to comply with Condition 3 shall have the following destruction efficiencies for the collected landfill gas:

VOC 99% or 0.017 lb/MMBtu (as propane)

NMOC 98% or 20 ppmvd as hexane at 3% oxygen

Compliance with this condition shall be demonstrated by operation of the open flare(s) in accordance with 40 CFR 60.18 and Condition 18.

Condition 6: The open flare system (Ref. No. F002) shall be designed and operated in accordance with 40 CFR 60.18 except as noted in 40 CFR 60.754 (e). The non-assisted flare(s) shall combust landfill gas with a net heating value of 200 Btu/scf or greater, and an exit velocity less than 60 ft/sec. Prior DEQ approval is required for the flare(s) to be designed and operated with a higher exit velocity but less than 400 ft/sec, as specified in 40 CFR 60.18 (c) (4) (ii) or (iii) and based on calculation of higher net heating value and maximum permitted velocity, as stated in 40 CFR 60.18 (f) (3) – (6). The flare(s) shall be maintained and operated in accordance with the manufacturer's written instructions and recommendations. The open flare system shall be in operation when the landfill gas collection system is operating, and landfill gas is routed to the flare(s). The open flare system shall be provided with adequate access for inspection.

Condition 7: Unless otherwise specified, dust emission controls shall include the following or equivalent as a minimum:

- a. Dust from grading, cell construction, waste compaction, application of daily cover, wood waste chipping operations, storage piles and traffic areas shall be controlled by wet suppression or equivalent (as approved by the DEQ) control measures.
- b. All material being stockpiled shall be kept moist to control dust during storage and handling or covered to minimize emissions.
- c. Dust from haul roads shall be controlled by wet suppression and the prompt removal of dried sediment resulting from soil erosion and dirt spilled or tracked onto paved surfaces within the landfill.
- d. Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Dirt spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.

Condition 8: Nitrogen oxides (NO_x) emissions from the tub grinder engine (Ref. No. 005) shall be controlled by a turbocharged engine and aftercooler. Visible emissions and other pollutant emissions from the tub grinder engine (Ref. No. 005) shall be controlled by the use of good operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations. In addition, the permittee may only change those settings that are permitted by the manufacturer and does not increase air emissions.

Condition 9: The MSW landfill (Ref. No. 001) shall accept for disposal no more than 305,400 tons (277,600 Mg) of solid waste per year, excluding all nondegradable refuse and clean daily cover materials, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 10: The LFG control system shall be in operation at all times when the collected gas is routed to the system. The LFG collection system shall be shut down and all valves in the collection and control system allowing atmospheric venting of LFG shall be closed within one hour if the GCCS is inoperable.

Condition 11: The approved fuel for the open flare(s) (Ref. No. F002) is landfill gas (LFG) with minimum heat content of 200 Btu/scf HHV. Natural gas or LP gas including propane may be used as fuel for the pilot.

Condition 12: The collection and control system may be shut down or removed provided the following conditions are met:

1. The landfill shall be a closed landfill as defined in 40 CFR 60.751 and under the requirements of 9 VAC 20-80-250E. A closure report shall be submitted to the Administrator as provided in 40 CFR 60.757 (d) and stated in Condition 35.

2. The collection and control system shall have been in operation a minimum of fifteen years; and
3. Following the procedures specified in 40 CFR 60.754 (b), the calculated (Non-Methane Organic Compounds) NMOC gas produced by the landfill shall be less than 23 megagrams per year on three successive test dates. The test dates shall be no less than ninety days apart, and no more than 180 days apart.

Condition 13: Except where this permit is more restrictive than the applicable requirement, the MSW landfill shall be constructed/modified and operated in compliance with the applicable requirements of 40 CFR 60 Subpart WWW and 40 CFR 63 Subpart AAAAA.

Condition 14: The tub grinder engine (Ref. No. 005) shall not operate more than 500 hours per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 15: The approved fuel for the tub grinder engine (Ref. No. 005) is diesel fuel. The diesel fuel shall meet the ASTM D975 specification for S15 diesel fuel oil with a maximum sulfur content per shipment of 0.0015%. A change in the fuel may require a new or amended permit.

Condition 17: Emissions from the operation of the tub grinder (Ref. No. 005) shall not exceed the limits specified below:

Nitrogen Oxides (as NO ₂)	10.1 lb/hr	31.5 tons/yr
Carbon Monoxide (CO)	1.5 lb/hr	85.0 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition 14.

Condition 18: The open flare(s) shall be operated with no visible emissions, as determined by EPA Method 22 (reference 40 CFR 60, Appendix A), except for periods not to exceed a total of five minutes during two consecutive hours.

Condition 19: Visible emissions from the tub grinder engine (Ref. No. 005) shall not exceed 5% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 10% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.

Condition 41: At all times, including periods of start-up, shutdown, 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 air pollution control equipment, monitoring devices 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, at a minimum.
- 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.

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.

9VAC5-60-100, Subpart AAAA of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills have been determined to be apply to the landfill (001):

40 CFR 63.1955(a): The collection and control system design plan may include for approval collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions, as provided in §63.1981(d)(2).

40 CFR 63.1955(c): The owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

40 CFR 63.1957(a): Operate collection and control system in accordance with §§63.1958, 63.1960, and 63.1961.

40 CFR 63.1957(b): Collection and control system removal criteria.

40 CFR 63.1958(a)(1) & (2): Operate the collection system from each area of the landfill where waste has been in place for 5 years if active and 2 years or more if closed or at final grade.

40 CFR 63.1958(b)(1) – (3): Operate collection system under negative pressure.

40 CFR 63.1958(c)(1): Operate each interior wellhead with a gas temperature less than 62.8°C (145°F).

40 CFR 63.1958(c)(2): Criteria to operate at higher temperature.

40 CFR 63.1958(d)(1): Operate collection system so that surface methane concentration is less than 500 ppm above background.

40 CFR 63.1958(e)(1)(i) & (ii): Collection and control system operating parameters.

40 CFR 63.1958(f): Operate control system at all times when gas is routed to it.

40 CFR 63.1959(b)(2)(ii)(B)(1) – (4): Active control system specifications.

40 CFR 63.1959(b)(2)(iii)(A): Route collected gas to a non-enclosed flare designed and operated in accordance with the parameters established in §63.11(b) except as noted in §63.1959(f).

40 CFR 63.1959(b)(2)(iii)(C): Route collected gas to a treatment system.

40 CFR 63.1959(b)(2)(iii)(D): All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of paragraph §63.1959(b)(2)(iii)(A) or (B) of this section.

40 CFR 63.1960(b)(1) & (2): Well installation time requirements.

40 CFR 63.1960(e)(2): Subpart applies at all times including startup, shutdown, and malfunction (SSM). During SSM, comply with work standards in §63.1958(e) in lieu of §63.1960.

40 CFR 63.1962: Active collection system specifications.

40 CFR 63.1964(b): Compliance with §63.1958 is required at all times.

As an existing municipal solid waste (MSW) landfill for which modification was commenced before July 17, 2014, the following provisions of 9VAC5-40 Article 43.1 apply to the landfill (001):

9VAC5-40-5935 A: Collect and control MSW landfill emissions in accordance with the provisions of 40 CFR 60.33f(b)(1) through (3), and 40 CFR 60.33f(c)(1) through (4) except as provided in 40 CFR 60.24.

9VAC5-40-5935 D: The owner of each MSW landfill may cap, remove, or decommission the collection and control system used to comply with subsection A of this section if the criteria of 40 CFR 60.33f(f)(1) through (4) are met.

9VAC5-40-5935 E: An active collection system used to comply with subsection A of this section shall meet the specifications for active collection system of 40 CFR 60.40f(a) through (c).

9VAC5-40-5940: Standard for visible emissions and fugitive dust/emissions.

9VAC5-40-5955: The owner of an MSW landfill with a gas collection and control system used to comply with the provisions of 40 CFR 60.33f(b) and (c) shall meet the requirements of 40 CFR 60.34f(a) through (g).

A review of the provisions of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the tub grinder engine (Ref. No. 005) is subject to the following requirements of the subpart as an existing engine located at an area source of HAP:

40 CFR 63.6603(a): Comply with the requirements in Tables 2b and 2d of the subpart.

Note: Requirements applicable to the tub grinder engine include those specified in Item 3 of Table 2.d, and Item 3 of Table 2.b. Item 3 of Table 2.d requires non-emergency, non-black start combustion ignition engines greater than 500 HP to limit the concentration of CO in the engine exhaust to 23 ppmvd at 15% O₂ or reduce CO emissions by 70% or more. Item 3 of Table 2.b requires existing combustion ignition engines greater than 500 HP complying with the requirement to limit or reduce the concentration of CO in the engine exhaust and not using an oxidation catalyst to comply with any operating limitations approved by the Administrator.

40 CFR 63.6604(a): Must use diesel fuel that meets the requirements in 40 CFR 1090.305 for nonroad diesel fuel.

40 CFR 63.6605(a): Must be in compliance with applicable emission limitations, operating limitations, and other requirements in the subpart at all times.

40 CFR 63.6605(b): At all times must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

40 CFR 63.6625(g): Closed crankcase ventilation system requirements.

40 CFR 63.6625(h): Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to the subpart apply.

A review of the provisions of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the compost trommel engine (Ref. No. 006) is subject to the following requirements of the subpart as a new engine located at an area source of HAP:

40 CFR 63.6590(c)(1): A new stationary RICE located at an area source of HAP must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart IIII for compression ignition engines. No further requirements apply for such engines under Subpart ZZZZ.

The compost trommel engine was manufactured in 2007 and constructed in 2008. A review of the provisions of 40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE) indicates the compost trommel engine (Ref. No. 006) is subject to the following requirements of the subpart:

40 CFR 60.4204(b): Comply with the emission standards for new engines in §60.4201.

40 CFR 60.4201(a): Must be certified to the emission standards for new nonroad CI engines in 40 CFR 1039.101, 1039.102, 1039.104, 1039.105, 1039.107, and 1039.115 and 40 CFR Part 1039, Appendix I, as applicable, for all pollutants, for the same model year and maximum engine power.

40 CFR 60.4206: Operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

40 CFR 60.4207(b): Must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel.

40 CFR 60.4211(a): Except as permitted in §60.4211(g), the engine must be operated and maintained according to the manufacturer's emission-related written instructions; change only those emission-related setting that are permitted by the manufacturer; and meet the applicable requirements of 40 CFR Part 1068.

40 CFR 60.4211(c): Except as permitted in §60.4211(g), the engine must be installed and configured according to the manufacturer's emission-related specifications.

40 CFR 60.4211(g)(2): If the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, the engine must be, to the extent practicable, maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions.

The emergency generator engine (Ref. No. EG-1) was constructed in 2016. A review of the provisions of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE) indicates the emergency generator engine is subject to the following requirements of the subpart:

40 CFR 60.4233(d) and (h): Comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to Subpart JJJJ for their emergency stationary SI ICE.

40 CFR 60.4234: Must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine.

40 CFR 60.4243(d): Operating requirements for emergency engines.

40 CFR 60.4246(a): Comply with applicable General Provisions in 40 CFR 60.1 through §60.19 indicated in Table 3 of Subpart JJJJ.

A review of the provisions of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the emergency generator engine (Ref. No. EG-1) is subject to the following requirements of the subpart as a new engine located at an area source of HAP:

40 CFR 63.6590(c)(1): A new stationary RICE located at an area source of HAP must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart JJJJ for compression ignition engines. No further requirements apply for such engines under Subpart ZZZZ.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable to the emergency generator engine (Ref. No. EG-1):

9 VAC 5-50-80, Standard for Visible Emissions.

Monitoring

Condition 8 of the NSR permit dated February 5, 2021, requires control of NO_x emissions from the tub grinder engine (Ref. No. 005) by turbocharging and aftercooling. Visible emissions and other pollutant emissions from the tub grinder engine (Ref. No. 005) shall be controlled using good operating practices and performing appropriate maintenance in accordance with the manufacturer recommendations. Periodic monitoring of maintenance, operating procedures,

operator training and engine specifications through recordkeeping as required in NSR permit conditions 33 and 41, is expected to provide reasonable assurance of compliance with the NO_x and visible emissions control requirements.

The maximum sulfur limit for diesel fuel used in the tub grinder engine contained in Condition 15 of the NSR permit dated February 5, 2021, is monitored by requiring the permittee to obtain a fuel supplier certification indicating the sulfur content of each shipment of diesel fuel.

The hourly emission limits for the tub grinder engine contained in Condition 17 of the NSR permit dated February 5, 2021, are based on the maximum rated capacity of the engine. An engine that is properly maintained and operated is expected to operate within its rated capacity. Periodic monitoring of maintenance and operator training through recordkeeping as required in NSR permit conditions 33 and 41, is expected to provide reasonable assurance of compliance with the hourly emission limits.

The annual emission limits for the tub grinder engine contained in Condition 17 of the NSR permit dated February 5, 2021, are based on annual hours of operation as limited in Condition 14 of the NSR permit. If the tub grinder engine operates no more than is permitted, then compliance with the emission limits will not be violated. Periodic monitoring of hours of operation through the non-resettable hour meter and recordkeeping as required by NSR permit Conditions 28 and 33, respectively, is expected to provide reasonable assurance of compliance with the annual emission limits.

The following monitoring requirements and referenced condition numbers are from the NSR permit dated February 5, 2021:

Condition 16: The permittee shall obtain a certification from the fuel supplier with each shipment of diesel fuel. Each fuel supplier certification shall include the following:

- a. The name of the fuel supplier;
- b. The date on which the diesel fuel was received;
- c. The quantity of diesel fuel delivered in the shipment;
- d. A statement that the diesel fuel complies with the American Society for Testing and Materials specifications (ASTM D975) for S15 diesel fuel oil; and
- e. The sulfur content of the diesel fuel.

Fuel sampling and analysis, independent of that used for certification, as may be periodically required, or conducted by DEQ may be used to determine compliance with the fuel specifications stipulated in Condition 15. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.

Condition 23: The operation of the gas collection system shall be monitored monthly as follows:

- a. Gauge pressure, each well.
- b. LFG temperature, each active well.
- c. Nitrogen concentration or oxygen concentration, each active well.

Condition 24: To demonstrate compliance with the limit on methane concentration at the surface of the landfill as given in Condition 3.i (not to exceed 500 ppm above background), the landfill gas collection areas shall be monitored for methane according to the surface monitoring design plan, as stated in Condition 4, and in the following manner:

- a. Using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications of 40 CFR 60.755(d).
- b. For the existing landfill cells, on a quarterly basis and consistent with the pattern provided in the Surface Monitoring Design Plan, or any approved updates.
- c. For each new cell (F-3, G-1 through G-5), methane surface monitoring shall begin within the first quarter after installation of a gas control system for the cell, and then quarterly thereafter in accordance with a revised Surface Monitoring Design Plan to include the new cell.
- d. In accordance with section 4.3.1 of Reference Method 21 of Appendix A of 40 CFR Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground.
- e. Monitoring shall be conducted during typical meteorological conditions.
- f. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

Condition 25: The operation of the gas control system shall be monitored as follows:

- a. Gas flow to the flare(s), recorded at least once every fifteen minutes.
- b. For the open flare(s), the presence of the pilot flame or the flare flame shall be continuously monitored by a heat-sensing device and recorded when landfill gas is being routed to the open flares.

Condition 26: Each monitoring device shall be installed, maintained, calibrated, and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations.

Condition 27: The permittee shall implement a program for cover integrity and implement cover repairs as necessary on a monthly basis, in accordance with 40 CFR 60.755(c)(5).

Condition 28: The tub grinder engine (Ref. No. 005) shall be equipped with a non-resettable hour metering device to monitor the operating hours. The non-resettable hour meter used to continuously measure the hours of operation for the engine shall be observed by the owner with a frequency of not less than once each day the engine is operated. The owner shall record the hour readings observed in a log that shall be maintained on-site and made available to DEQ staff upon request. Each monitoring device shall be installed, maintained, calibrated (as appropriate) and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the tub grinder engine is operating.

Condition 29: If positive gauge pressure exists at any well head during the monthly monitoring required in Condition 23, action shall be initiated to correct the exceedance within five days, except under the following conditions: when there is a fire or increased well temperature; when an alternative pressure limit was established in the design plan as a result of the use of a geomembrane or synthetic cover; and directly after shutdown of a well. If a negative pressure cannot be achieved without excess air infiltration within fifteen days of the first measurement, then the permittee shall conduct a root cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured. If corrective action cannot be fully implemented within 60 days, then a corrective action analysis shall be conducted also, and an implementation schedule developed to complete the corrective actions no later than 120 days following the initial exceedance. If the corrective action is expected to take longer than 120 days to complete after the initial exceedance, then the root cause analysis, corrective action analysis and implementation schedule shall be submitted to the Regional Air Compliance Manager of DEQ's NRO for approval. The permittee shall keep all records associated with the exceedance and the corrective actions taken. Any attempted corrective measure shall not cause exceedance of other operational or performance standards. As long as the specified actions are taken, the exceedance(s) are not a violation of the operational requirements of this permit or 40 CFR 60.753.

Condition 30: If conditions at an active well head equal or exceed 55°C (131°F) during the monthly monitoring required in Condition 23, action shall be initiated to correct the exceedance within five days. If a landfill gas temperature less than 55°C (131°F) cannot be achieved within fifteen days from the first measurement of elevated temperature, then the permittee shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after temperature exceedance was first measured. If corrective action cannot be fully implemented within 60 days, then a corrective action analysis shall be conducted also, and an

implementation schedule developed to complete the corrective actions no later than 120 days following the initial exceedance. If the corrective action is expected to take longer than 120 days to complete after the initial exceedance, then the root cause analysis, corrective action analysis and implementation schedule shall be submitted to the Regional Air Compliance Manager of DEQ's NRO for approval. The permittee shall keep all records associated with the exceedance and the corrective actions taken. Any attempted corrective measure shall not cause an exceedance of other operational or performance standards. As long as the specified actions are taken, the exceedance(s) are not a violation of the operational requirements of this permit or 40 CFR 60.753.

Condition 31: If surface emissions of methane equal or exceed 500 parts per million above background during the quarterly monitoring required in Condition 24, actions shall be taken as follows:

- a. The location of each monitored exceedance shall be marked, and the location recorded.
- b. Maintenance to the landfill cover or adjustment to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made. The location shall be re-monitored within ten days of detecting and exceedance.
- c. If re-monitoring of the location shows a second exceedance, additional corrective action shall be taken, and the location shall be re-monitored again within ten days of the second exceedance.
- d. For any location which shows an exceedance three times within a quarterly period, a new well or other collection device shall be installed within 120 days of the initial exceedance. An alternative remedy to correct the exceedance and an alternative timeline to complete the remedy may be submitted to the Regional Air Compliance Manager of the DEQ's NRO for approval.
- e. Any location that initially showed an exceedance but has a methane concentration less than 500 parts per million above background after the first or second ten-day re-monitoring shall be re-monitored one month from the initial exceedance. If the one-month re-monitoring shows no exceedance, no further monitoring is required at that location until the next quarterly monitoring period. If the one-month re-monitoring shows an exceedance, then follow the steps in (c) and (d) above.

As long as the specified actions are taken, the exceedance(s) are not a violation of the operational requirements of this permit or 40 CFR 60.753.

9VAC5-60-100, Subpart AAAA of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills have been determined to apply to the landfill (001):

40 CFR 63.1958(d)(1) & (2): Conduct surface methane monitoring and develop a monitoring plan.

40 CFR 63.1958(g): Corrective action requirements.

40 CFR 63.1960(a)(3): Measure gauge pressure in collection header of each well monthly.

40 CFR 63.1960(a)(3)(i)(A) – (C): Root cause analysis, corrective action analysis, and corrective action implementation timeline requirements.

40 CFR 63.1960(a)(4)(i)(A) – (D): Monthly well temperature monitoring and corrective action procedures.

40 CFR 63.1960(c)(1) – (5): Surface methane monitoring and corrective action procedures, and cover integrity monitoring and repair requirements.

40 CFR 63.1960(d)(1) – (4): Surface monitoring instrument specifications.

40 CFR 63.1961(a)(1): Measure well gauge pressure monthly.

40 CFR 63.1961(a)(2)(i) – (iii): Monitor oxygen and nitrogen monthly.

40 CFR 63.1961(a)(4): Monitor well temperature monthly.

40 CFR 63.1961(a)(5)(i) – (ix): Enhanced monitoring requirements for each well with temperature above 62.8 °C.

40 CFR 63.1961(a)(6): Annual temperature monitoring requirements for well temperature above 73.9 °C.

40 CFR 63.1961(c)(1) & (2): Non-enclosed flare monitoring device requirements.

40 CFR 63.1961(f): Surface methane monitoring requirements.

40 CFR 63.1961(g): Landfill gas treatment system monitoring requirements.

40 CFR 63.1961(h): Monitoring requirements apply at all times with exceptions.

As an existing municipal solid waste (MSW) landfill for which modification was commenced before July 17, 2014, the following provisions of 9VAC5-40 Article 43.1 apply to the landfill (001):

9VAC5-40-5960 A: With regard to the emissions limits in 9VAC5-40-5940 and 9VAC5-40-5945, the provisions of 9VAC5-40-20 (Compliance) apply.

9VAC5-40-5960 B.1 – 3: With regard to the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following compliance provisions apply: 9VAC5-40-20 D, and E; to the extent specified in the federal regulations cited in subdivision 3 of this subsection; 40 CFR 60.13; and 40 CFR 60.36f(a) through (e).

9VAC5-40-5965 A: With regard to the emissions standards in 9VAC5-40-5940, the provisions of 9VAC5-40-40 (Monitoring) apply.

9VAC5-40-5965 B.2, 4, & 5: With regard to the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following monitoring provisions apply: 9VAC5-40-40 A and F; 40 CFR 60.13; and 40 CFR 60.37f(a) through (h), except as provided in 40 CFR 60.38f(d)(2).

9VAC5-40-5980 B. 2: With regard to the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following monitoring provisions apply: 40 CFR 60.37f(h).

A review of the provisions of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the tub grinder engine (Ref. No. 005) is subject to the following monitoring requirements of the subpart as an existing engine located at an area source of HAP:

40 CFR 63.6625(b): If a continuous parameter monitoring system (CPMS) is required to be installed as specified in Table 5 of the subpart, the CPMS must be installed, operated, and maintained according to the requirements in §63.6625(b)(1) – (8).

40 CFR 63.6635: Monitoring and data collection requirements to demonstrate continuous compliance with emission and operating limitations.

A review of the provisions of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE) indicates the emergency generator engine (Ref. No. EG-1) is subject to the following monitoring requirements of the subpart:

40 CFR 60.4237(c): If an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, then a non-resettable hour meter must be installed upon startup of the engine.

The emergency generator engine (Ref. No. EG-1) is subject to the provisions of 9VAC5-50-80, which limits visible emissions from the engine exhaust stack to no more than 20% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 30% opacity. Combustion units firing propane and being properly maintained are not expected to violate an opacity standard. This position is supported by EPA (Eric Schaeffer and John Seitz memo dated 9/15/98) when burning pipeline grade natural gas and can be assumed to be supported for propane which is similar with respect to particulate creating components. The

provisions of 40 CFR 60.4234 require the owner to operate and maintain the engine that achieves the applicable emissions standards over the entire life of the engine, which is monitored through the keeping records of maintenance, operation, and documentation that the engine meets applicable emission standards in accordance with 40 CFR 60.4245(a) and (b).

Recordkeeping

General Title V retention of records is 5 years. Some of the records required of the applicable NSPS have 2-year retention timeframes. For the purpose of Title V, all records relevant to this permit and facility must be maintained for 5 years.

The following recordkeeping requirements and referenced condition numbers are from the NSR permit dated February 5, 2021:

Condition 33: The permittee shall maintain records of all emissions data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be agreed upon with the Regional Air Compliance Manager of the DEQ's NRO. These records shall include, but are not limited to:

- a. Current maximum design capacity report, which triggered 40 CFR 60.752(b), current amount of refuse in place, and year by year refuse accumulation rates.
- b. Description, location, amount, and placement date of all non-degradable refuse including asbestos and demolition refuse placed in landfill areas which are excluded from landfill gas collection and control.
- c. A copy of the most recently updated gas collection and control system design plan.
- d. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures listed in 40 CFR 60.759(a)(1).
- e. All decommissioned wells and supporting documentation to show the reason for decommissioning each well.
- f. Installation date, location and construction details of all installed vents, wells, and flares.
- g. Map or plot showing each existing and planned well in the gas collection system with each well uniquely identified.
- h. Maximum expected gas generation flow rate as calculated in 40 CFR 60.755(a)(1), or by other means as approved by the Regional Air Compliance Manager of the DEQ's NRO.
- i. Total annual landfill gas flow to the open flare(s), recorded monthly, as the sum of each consecutive twelve-month period.

- j. Monthly well field results demonstrating compliance with Condition 23.
- k. Gas control system monitoring results demonstrating compliance with Condition 25.
- l. Value and length of time for exceedance of applicable parameters monitored under sections 40 CFR 60.756 (a), (b), (c), and (d) (also in permit Conditions 23 - 25).
- m. Specific corrective action(s) taken pursuant to Condition 29, 30, and 31, including date corrective action(s) was taken, date re-monitoring occurred and re-monitoring result(s).
- n. All occurrences of the LFG collection or control system shut down that are greater than or equal to one hour in duration. These records shall include date, duration of time, and reason the system was inoperable.
- o. A copy of the most recent surface methane monitoring design plan (including Cells F-1 and F-2).
- p. Results of quarterly surface monitoring demonstrating compliance with Condition 24.
- q. A copy of the facility SSM plan, as required by 40 CFR 63, Subpart AAAA.
- r. A copy of semi-annual compliance reports, including SSM plan report, as required in Condition 34.
- s. Annual hours of operation of the tub grinder engine (Ref. No. 005), calculated monthly as the sum of each 12 consecutive month period. Compliance for the 12 consecutive month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- t. All fuel supplier certifications.
- u. Tub grinder engine information including make, model, serial number, model year, maximum engine power (bhp), and engine displacement.
- v. The tub grinder engine manufacturer's written operating instructions or procedures developed by the owner/operator that are approved by the engine manufacturer.
- w. Results of all stack tests and visible emission evaluations.
- x. Scheduled and unscheduled maintenance and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

9VAC5-60-100, Subpart AAAA of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills have been determined to apply to the landfill (001):

40 CFR 63.1983(a): Keep records of design capacity, solid waste in-place and waste acceptance rate.

40 CFR 63.1983(b)(1)(i) & (ii): Keep records of expected gas generation flow rate and gas extraction device density.

40 CFR 63.1983(b)(4): Non-enclosed flare records.

40 CFR 63.1983(b)(5)(i) & (ii): Landfill gas treatment system records.

40 CFR 63.1983(c)(2), & (4) – (8): Continuous records of equipment operating parameters specified to be monitored in §63.1961.

40 CFR 63.1983(d)(1) & (2): Date and location of newly installed collectors and records of nondegradable waste.

40 CFR 63.1983(e)(1) – (5): Records of collection and control system exceedances of operational standards and corrective actions.

40 CFR 63.1983(g): Records of collection and control system monitoring data for parameters measured in §63.1961(a) – (6).

40 CFR 63.1983(h): Records of monthly landfill gas temperature and enhanced monitoring data.

As an existing municipal solid waste (MSW) landfill for which modification was commenced before July 17, 2014, the following provisions of 9VAC5-40 Article 43.1 apply to the landfill (001):

9VAC5-40-5960 A: Regarding the emissions standards in 9VAC5-40-5940, the provisions of 9VAC5-40-20 (Notification, records, and reporting) apply.

9VAC5-40-5960 B.1: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the provisions of 9VAC5-40-20 D apply.

9VAC5-40-5960 B.2: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 40 CFR 60.7, to the extent specified in the federal regulations cited in subdivision 3 of this subsection.

9VAC5-40-5960 B.3: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the provisions of 40 CFR 60.36f(a) through (e) apply.

9VAC5-40-5970 A: Regarding the emissions standards in 9VAC5-40-5940, the provisions of 9VAC5-40-50 (Compliance) apply.

9VAC5-40-5970 B.1: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 9VAC5-40-50 F and H.

9VAC5-40-5970 B.2: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 40 CFR 60.7.

9VAC5-40-5970 B.3: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 40 CFR 60.39f(a) through (j).

A review of the provisions of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the tub grinder engine (Ref. No. 005) is subject to the following recordkeeping requirements of the subpart as an existing engine located at an area source of HAP:

40 CFR 63.6655(a): Keep records described in §63.6655(a)(1) – (5), (b)(1) – (3).

40 CFR 63.6655(d): Keep records required in Table 6 of the subpart.

Note: Item 11 in Table 6 applies to the tub grinder engine.

40 CFR 63.6660(a), (b), and (c): Requirements for record form and retention.

A review of the provisions of 40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE) indicates the compost trommel engine (Ref. No. 006) is subject to the following requirements of the subpart:

40 CFR 60.4211(g)(2): If the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, keep a maintenance plan and records of conducted maintenance.

A review of the provisions of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE) indicates the emergency generator engine (Ref. No. EG-1) is subject to the following monitoring requirements of the subpart:

40 CFR 60.4245(a)(1) – (4): Must keep records of all notifications, maintenance, and engine emission certifications or documentation that the engine meet applicable emission standards.

40 CFR 60.4245(b): Records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

Testing

The following testing requirements and referenced condition numbers are from the NSR permit dated February 5, 2021:

Condition 20: Upon request by the DEQ, the permittee shall conduct additional performance testing of the open flare(s) (Ref. No. F002) to demonstrate compliance with the net heating value determination and exit velocity determination as stated in 40 CFR 60.754 (e). The details of the tests shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO.

Condition 21: Upon request by the DEQ, the permittee shall conduct visible emission evaluations of the open flare(s) (Ref. No. F002) and tub grinder engine (Ref. No. 005) to demonstrate compliance with the visible emission limits contained in this permit. The details of the VEE shall be arranged with the Regional Air Compliance Manager of the DEQ's NRO.

Condition 22: The facility shall be constructed or modified so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports shall be provided when requested by the DEQ at the appropriate locations and safe sampling platforms and access shall be provided.

9VAC5-60-100, Subpart AAAA of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills have been determined to apply to the landfill (Ref. No. 001):

40 CFR 63.1959(e) & (f): Performance test requirements.

As an existing municipal solid waste (MSW) landfill for which modification was commenced before July 17, 2014, the following provisions of 9VAC5-40 Article 43.1 apply to the landfill (Ref. No. 001):

9VAC5-40-5965 A: Regarding the emissions standards in 9VAC5-40-5940, the provisions of 9VAC5-40-30 (Emission testing) apply.

9VAC5-40-5965 B.1: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 9VAC5-40-30 D.

9VAC5-40-5965 B.3: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 40 CFR 60.8(b) through (f), except for 40 CFR 60.8(a).

9VAC5-40-5965 B.5: Regarding the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 40 CFR 60.35f(a) through (e).

A review of the provisions of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the tub grinder engine (Ref. No. 005) is subject to the following testing requirements of the subpart as an existing engine not using an oxidation catalyst located at an area source of HAP:

40 CFR 63.6612(a): Conduct initial performance test or compliance demonstration according to Tables 4 and 5 of the subpart.

Note: Items 1 or 3 of Table 4, and Items 3 or 4 of Table 5 apply to the tub grinder engine.

40 CFR 63.6615: Conduct subsequent performance tests as specified in Table 3.

Note: Item 4 of Table 3 applies to the tub grinder engine. Item 4 indicates subsequent performance tests must be conducted every 8,760 hours or 3 years, whichever comes first.

40 CFR 63.6620(a): Conduct each applicable performance test in Tables 3 and 4.

40 CFR 63.6620(d): Conduct three separate runs for each required performance test.

40 CFR 63.6620(e): Equations required for used to determine compliance with emissions standards.

40 CFR 63.6620(f): Requirements for complying with the emission limitation to reduce CO if not using an oxidation catalyst.

40 CFR 63.6620(g) and (h): Petition requirements.

40 CFR 63.6620(i): Requirements for determining engine percent load during a performance test.

40 CFR 63.6630(a): Must demonstrate initial compliance with each applicable emission limitation, operating limitation, and other requirements according to Table 5 of the subpart.

40 CFR 63.6630(b): Must establish each applicable operating limitation in Tables 1b and 2b during initial performance test.

40 CFR 63.6640(a): Demonstrate continuous compliance with each applicable emission limitation, operating limitation, and other requirements in Tables 2b and 2d according to methods specified in Table 6 of the subpart.

Note: Item 11 of Table 6 applies to the tub grinder engine.

A review of the provisions of 40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE) indicates the compost trommel engine (Ref. No. 006) is subject to the following requirements of the subpart:

40 CFR 60.4211(g)(2): If the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, an initial performance test must be conducted to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after emission-related settings are changed in a way that is not permitted by the manufacturer.

40 CFR 60.4212: Test methods and procedures for engines with a displacement of less than 30 liters per cylinder.

Reporting

The Title V permit includes semi-annual compliance reporting, excess emission reporting, and the occurrence of any malfunctions or permit deviations.

The following reporting requirements and referenced condition numbers are from the NSR permit dated February 5, 2021:

Condition 32: All correspondence concerning this permit shall be submitted to the following address:

Regional Air Compliance Manager
Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

Condition 34: A semi-annual compliance report shall be submitted to the Regional Air Compliance Manager of the DEQ's NRO by the dates specified below and shall contain the following:

- a. Value and length of time for exceedance of applicable parameters monitored under section 40 CFR 60.756 (a), (b), (c), and (d) (or permit Conditions 23 - 25).
- b. Description and duration of all periods when the gas stream is diverted from the control device through a bypass line, or the indication of bypass flow as specified under 40 CFR 60.756 (or permit Condition 25).
- c. All periods when the collection system was not operating in excess of five days.

- d. The location of each exceedance of the 500 parts per million surface methane concentration as provided in 40 CFR 60.753(d) (or permit Condition 24), and the Rappahannock Regional Solid Waste Management Board Registration Number: 40946 February 5, 2021, Page 15 concentration recorded at each location for which an exceedance was recorded in the previous month.
- e. Description and duration of all periods when the control device was not operating for a period exceeding one hour and length of time the control device was not operating.
- f. The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755 (a)(3), (b), and (c)(4); or added as part of the expansion of the collection system associated with each new cell.

The semi-annual reports shall cover the two semi-annual periods (January through June and July through December) of each calendar year. One copy of the reports shall be submitted to U.S. Environmental Protection Agency at the following address:

Chief, Air Section
Enforcement & Compliance Assurance Division
Air, RCRA and Toxics Branch
US EPA Region 3
1650 Arch Street – 3ED21
Philadelphia, PA 19103

The semi-annual report, to include 40 CFR 63 NESHAP Subpart AAAA reports (Subsection 63.1930), shall be submitted by March 1 and September 1 of the calendar year. Also, note that after September 27, 2021, all reports must be sent electronically to EPA via CEDRI, as stated in 40 CFR 63.1981(l).

Condition 35: The permittee shall submit a closure report to the Regional Air Compliance Manager of the DEQ's NRO, within thirty days of the date the landfill stopped accepting municipal solid waste as required by 40 CFR 60, Subpart WWW.

Condition 36: The permittee shall submit an equipment removal report to the Regional Air Compliance Manager of the DEQ's NRO, at least thirty days prior to the removal or cessation of operation of the control equipment.

Note: the initial notification requirements of NSR Condition 37 have been completed. Therefore, these one-time requirements no longer apply and are not included in the renewal Title V permit.

Condition 38: The permittee shall furnish written notification of the following to the Regional Air Compliance Manager of the DEQ's NRO at the address given in Condition 32:

- a. The actual date on which construction of each new cell (G-1 through G-5) at the MSW landfill (Ref. No. 001) commenced within 30 days after such date.
- b. The anticipated date of initial startup of each new cell (G-1 through G-5) at the MSW landfill (Ref. No. 001) postmarked not more than 60 days nor less than 30 days prior to such date.
- c. The actual start-up date of each new cell (G-1 through G-5) at the MSW landfill (Ref. No. 001) within 15 days after such date.
- d. The specifications for each flare added to the gas collection and control system, at a minimum including manufacturer, flare type, maximum flow rating, emissions information demonstrating compliance with Conditions 5 and 18 at least 30 days prior to the anticipated date of installation.
- e. The anticipated date of performance tests of the gas collection and control system postmarked at least 30 days prior to such date.

9VAC5-60-100, Subpart AAAA of Virginia air pollution regulations and the following provisions of 40 CFR Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills have been determined to apply to the landfill (Ref. No. 001):

40 CFR 63.1981(e)(1) & (2): Revised design plan submission requirements.

40 CFR 63.1981(f): Closure report requirements.

40 CFR 1981(g)(1) & (2): Equipment removal report.

40 CFR 63.1981(h)(1) – (8): Semi-annual report requirements.

40 CFR 63.1981(j)(1) & (2): Corrective action and corresponding timeline report requirements.

40 CFR 63.1981(k): Twenty-four-hour high temperature reporting requirements.

40 CFR 63.1981(l)(1) & (2): Electronic reporting requirements.

40 CFR 63.1981(m)(1) – (7): Claims of EPA system outage.

40 CFR 63.1981(n)(1) – (5): Claims of force majeure.

As an existing municipal solid waste (MSW) landfill for which modification was commenced before July 17, 2014, the following provisions of 9VAC5-40 Article 43.1 apply to the landfill (001):

9VAC5-40-5970 A: With regard to the emissions standards in 9VAC5-40-5940, the provisions of 9VAC5-40-50 (Notification, records and reporting) apply.

9VAC5-40-5970 B.1: With regard to the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 9VAC5-40-50 H.

9VAC5-40-5970 B.2: With regard to the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 40 CFR 60.7.

9VAC5-40-5970 B.3: With regard to the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 40 CFR 60.38f(a) through (m) except as provided in 40 CFR 60.24 and 40 CFR 60.38f(d)(2).

9VAC5-40-5980 A: With regard to the emissions standards in 9VAC5-40-5940 and 9VAC5-40-5945, the provisions of 9VAC5-20-180 (Facility and control equipment maintenance or malfunction) apply.

9VAC5-40-5980 B.1: With regard to the emission limits in 9VAC5-40-5935 and 9VAC5-40-5955, the following provisions apply: 9VAC5-20-180 except for subsections E, F, and G.

A review of the provisions of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the tub grinder engine (Ref. No. 005) is subject to the following reporting requirements of the subpart as an existing engine located at an area source of HAP:

40 CFR 63.6630(c): Submit the Notification of Compliance Status containing results of initial compliance demonstration according to §63.6645.

40 CFR 63.6640(b): Report each instance in which the applicable requirements in Tables 2b and 2d were not met.

40 CFR 63.6640(e): Report each instance in which the applicable requirements in Table 8 were not met.

40 CFR 63.6645(a): Submit all applicable notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h).

40 CFR 63.6645(g): Submit a Notification of Intent to conduct a performance test at least 60 days before the test is scheduled to begin as required in §63.7(b)(1).

40 CFR 63.6645(h): Submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

40 CFR 63.6650(a): Submit each report in Table 7 of Subpart ZZZZ.

40 CFR 63.6650(b): Submit each report by the date in Table 7 of Subpart ZZZZ and according to the requirements in §63.6650(b)(1) through (b)(9).

40 CFR 63.6650(c), (d), (e), and (f): Compliance report requirements.

AMERESCO STAFFORD EQUIPMENT REQUIREMENTS - Emission Unit ID: 003 and 004

Citations

The following citations from the Virginia Administrative Codes identify the underlying authorities to implement the specific requirements determined to be applicable in the NSR permit dated June 20, 2007 (as amended March 27, 2015):

9VAC5-80-1180,	9VAC5-50-260,
9VAC5-50-20,	9VAC5-50-80,
9VAC5-50-30,	9VAC5-80-1200,
9VAC5-20-230,	9VAC5-80-1210,
9VAC5-170-130,	9VAC5-20-180,
9VAC5-80-1240,	9VAC5-170-160, and
9VAC5-50-50.	

Limitations

The following limitations and referenced condition numbers are from the NSR permit dated June 20, 2007 (as amended March 27, 2015), for the two GE Jenbacher Genset engines. The engines are referred to as Reference Numbers 1 and 2 in the 2015 NSR permit.

Condition 2: Emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and particulate matter (PM) from the engines (Ref. Nos. 1 and 2) shall be controlled by good work practices.

Condition 3: At all times, the disposal of volatile organic compounds shall be accomplished by taking measures, to the extent practicable, consistent with good air pollution control practices for minimizing emissions. Volatile organic compounds shall not be intentionally spilled, discarded in sewers which are not connected to a treatment plant, or stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution practices for minimizing emissions.

Condition 4: The approved fuel for the engines (Ref. Nos. 1 and 2) is landfill gas. A change in the fuel may require a permit to modify and operate.

Condition 5: The engines (Ref. Nos. 1 and 2) combined shall consume no more than 4.84×10^8 standard cubic feet of landfill gas per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 6: Nitrogen oxide emissions (as NO_2) from each engine (Ref. Nos. 1 and 2) shall not exceed 3.6 pounds per hour.

Condition 7: Total combined emissions from the engines (Ref. Nos. 1 and 2) shall not exceed the limits specified below:

Nitrogen Oxides (as NO_2)	31.5 tons/yr
Sulfur Dioxide (SO_2)	7.0 tons/yr
Carbon Monoxide (CO)	85.0 tons/yr
Volatile Organic Compounds	7.0 tons/yr
PM10	23.6 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition 4 and Condition 5.

Condition 8: Visible emissions from the operation of the engines (Ref. Nos. 1 and 2) shall not exceed 5% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 10% opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction. During start-up and shut down times, visible emissions from the engines (Ref. Nos. 1 and 2) shall not exceed ten percent (10%) opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed twenty percent (20%) opacity.

Condition 18: At all times, including periods of startup, shutdown, 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. Records of maintenance shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

A review of the provisions of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines indicates the GE Jenbacher Genset engines (Emission Unit ID: 003 and 004) are subject to subpart pursuant to §60.4230(a)(4)(i). The following requirements from Subpart JJJJ apply to the engines:

40 CFR 60.4233(e): Comply with the emission standards in Table 1 to the subpart.

According to the requirements of §60.4233(e) and Table 1 of the subpart, engine 003, manufactured after 2007, is subject to the following emission standards:

NO_x: 3.0 g/HP-hr or 220 ppmvd at 15% O₂
CO: 5.0 g/HP-hr or 610 ppmvd at 15% O₂
VOC: 1.0 g/HP-hr or 80 ppmvd at 15% O₂

According to the requirements of §60.4233(e) and Table 1 of the subpart, engine 004, manufactured after 2010, is subject to the following emission standards:

NO_x: 2.0 g/HP-hr or 150 ppmvd at 15% O₂
CO: 5.0 g/HP-hr or 610 ppmvd at 15% O₂
VOC: 1.0 g/HP-hr or 80 ppmvd at 15% O₂

40 CFR 60.4234: Must operate and maintain an affected engine that achieves the emission standards as required in §60.4233 over the entire life of the engine.

40 CFR 60.4243(b)(2)(ii): Maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.

A review of 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines indicates the GE Jenbacher Genset engines (Emission Unit ID: 003 and 004) are subject to subpart pursuant to §63.6585 and §63.6590(a)(2)(iii) as new engines located at an area source of HAP. In accordance with §63.6590(c), the engines must meet the requirements of Subpart ZZZZ by meeting the requirements of Subpart JJJJ.

Monitoring

Condition 2 of the NSR permit dated June 20, 2007 (as amended March 27, 2015), for the two GE Jenbacher Genset engines requires control of emissions of NO_x, CO, and PM from the engines by good work practices. Periodic monitoring of work practices is achieved by requiring the permittee to 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 and to keep maintenance records as required in Condition 18 of the NSR permit. Therefore, periodic monitoring of maintenance activities through recordkeeping is expected to provide reasonable assurance of compliance with the emissions control requirements.

Condition 4 of the NSR permit dated June 20, 2007 (as amended March 27, 2015), for the two GE Jenbacher Genset engines establishes landfill gas as the approved fuel for the engines. Condition 5 of the NSR permit for the engines limits annual consumption of landfill gas by the engines. Periodic monitoring of landfill gas consumption through recordkeeping is expected to provide reasonable assurance of compliance with the LFG fuel limitation.

The hourly emission limit for NO_x for the GE Jenbacher Genset engines contained in Condition 6 of the NSR permit dated June 20, 2007 (as amended March 27, 2015) is based on the maximum rated brake horsepower of the engines and therefore unlikely to be violated; however, Condition 18 requires the permittee to 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 and to keep maintenance records. Therefore, periodic monitoring of maintenance activities through recordkeeping is expected to provide additional assurance of compliance with the hourly emission limit.

The annual emission limits for the GE Jenbacher Genset engines contained in Condition 7 of the NSR permit dated June 20, 2007 (as amended March 27, 2015) are based on consumption of approved fuel as limited in Conditions 4 and 5 of the NSR permit. The fuel consumption limitations for the engines are based on maximum heat input capacity of each engine and, therefore, unlikely to be violated. If the GE Jenbacher Genset engines consume no more LFG than is permitted, then compliance with the emission limits is expected. Periodic monitoring of LFG consumption through recordkeeping and records of monthly and annual emission calculations as required by NSR permit Condition 12 is expected to provide reasonable assurance of compliance with annual emission limits.

Condition 8 of the NSR permit dated June 20, 2007 (as amended March 27, 2015), for the two GE Jenbacher Genset engines limits visible emissions from the engine exhaust stacks to no more than 5% opacity except during one 6-minute period in any one hour in which visible emissions shall not exceed 10% opacity. Combustion units firing landfill gas and being properly maintained are not expected to violate an opacity standard. This position is supported by EPA (Eric Schaeffer and John Seitz memo dated 9/15/98) when burning pipeline grade natural gas and can be assumed to be supported for landfill gas which is similar with respect to particulate creating components. Condition 18 of the NSR permit requires the permittee to maintain and operate the engines in a manner consistent with good air pollution control practice for minimizing emissions, which is monitored through the recordkeeping provisions of NSR permit Condition 12. Condition 4 of the NSR permit establishes landfill gas as the approved fuel for the engines. Periodic monitoring of the approved fuel requirement is achieved by requiring the permittee to keep records of monthly and annual consumption of landfill gas for the engines.

Recordkeeping

General Title V retention of records is 5 years. Some of the records required of the applicable NSPS have 2-year retention timeframes. For the purpose of Title V, all records relevant to this permit and facility must be maintained for 5 years.

The following recordkeeping requirements and referenced condition numbers are from the NSR permit dated June 20, 2007 (as amended March 27, 2015), for the two GE Jenbacher Genset engines. The engines are referred to as Reference Numbers 1 and 2 in the 2015 NSR permit.

Condition 12: 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, DEQ's Northern Regional Office. These records shall include, but are not limited to:

- a. Monthly and annual throughput of landfill gas for each engine (Ref. Nos. 1 and 2). Annual throughput of land fill gas shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- b. Monthly and annual emission calculations for the pollutants listed in Condition 7 using methods approved by the Air Compliance Manager, DEQ's Northern Regional Office to verify compliance with the ton/yr emission limitations in Condition 7. Annual pollutant emission rates shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
- c. Scheduled and unscheduled maintenance and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

A review of the provisions of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines indicates the GE Jenbacher Genset engines (Emission Unit ID: 003 and 004) are subject to subpart pursuant to §60.4230(a)(4)(i). The following recordkeeping requirements from Subpart JJJJ apply to the engines:

40 CFR 60.4243(b)(2)(ii): Must keep a maintenance plan and records of conducted maintenance.

40 CFR 60.4245(a)(1), (2), and (4): Must keep records of all notifications submitted to comply with the subpart, maintenance conducted on the engine, and documentation that the engine meets the emission standards.

Testing

The following testing requirements and referenced condition numbers are from the NSR permit dated June 20, 2007 (as amended March 27, 2015), for the two GE Jenbacher Genset engines. The engines are referred to as Reference Numbers 1 and 2 in the 2015 NSR permit.

Note: The initial performance tests required in Condition 9 were completed on January 12, 2016. Therefore, the one-time testing requirement no longer applies and is not included in the renewal Title V permit.

Condition 10: The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. Test ports shall be provided when requested in accordance with the applicable reference method or performance specification (ref. 40 CFR Part 60, Appendices A and B).

Condition 11: Upon request by the DEQ, the permittee shall conduct additional performance tests and/or visible emission evaluations on the engines (Ref. Nos. 1 and 2) to demonstrate compliance with the emission limits and/or visible emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, DEQ's Northern Regional Office.

A review of the provisions of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines indicates the GE Jenbacher Genset engines (Emission Unit ID: 003 and 004) are subject to subpart pursuant to §60.4230(a)(4)(i). The following testing requirements from Subpart JJJJ apply to the engines:

40 CFR 60.4243(b)(2)(ii): Conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter, to demonstrate compliance.

40 CFR 60.4244(a) – (g): Specifications for test methods and other procedures.

Reporting

The Title V permit includes semi-annual compliance reporting, excess emission reporting, and the occurrence of any malfunctions or permit deviations.

The initial notification requirements in Condition 13 of the NSR permit have been completed. Therefore, the one-time notification requirements no longer apply and are not included in the renewal Title V permit.

A review of the provisions of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines indicates the GE Jenbacher Genset

engines (Emission Unit ID: 003 and 004) are subject to subpart pursuant to §60.4230(a)(4)(i). The following reporting requirements from Subpart JJJJ apply to the engines:

40 CFR 60.4245(d): Requirements for performance test reporting.

INSIGNIFICANT EMISSIONS UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9VAC5-80-110.

Insignificant emission units at the R-Board Sanitary Landfill facility include the following:

Emission Unit Description	Citation¹ (9VAC __)	Pollutant(s) Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
Four 500-gallon diesel storage tanks	5-80-720.B	VOC	-----
One 100-gallon diesel storage tank	5-80-720.B	VOC	-----
Two 100-gallon gasoline storage tanks	5-80-720.B	VOC	-----
Three 250-gallon bulk oil storage tanks	5-80-720.B	VOC	-----
Two 1,000-gallon used oil tanks	5-80-720.B	VOC	-----
One 500-gallon used oil tank	5-80-720.B	VOC	-----
One 500-gallon fuel oil storage tank	5-80-720.B	VOC	-----
One 66,000 gallon above ground leachate storage tank	5-80-720.B	VOC	-----
One 87,500 Btu/hr Jenny air compressor	5-80-720.B	NO _x , SO ₂ , CO, VOC, PM ₁₀	-----
One 59,600 Btu/hr Honda GX160 water truck pump	5-80-720.B	NO _x , SO ₂ , CO, VOC, PM ₁₀	-----
One 87,500 Btu/hr Honda GX240 multiquip pump QP3TH	5-80-720.B	NO _x , SO ₂ , CO, VOC, PM ₁₀	-----
One 158,000 Btu/hr Wacker PTS 4 pump B&S Vanguard 303447	5-80-720.B	NO _x , SO ₂ , CO, VOC, PM ₁₀	-----
One Clean-Burn model 1750 fuel oil furnace	5-80-720.C	-----	0.17 MMBtu/hr
One Clean-Burn model 2500 fuel oil furnace	5-80-720.C	-----	0.25 MMBtu/hr
One Clean-Burn model 3500 fuel oil furnace	5-80-720.C	-----	0.35 MMBtu/hr
One Wanco light tower with Kubota engine model D1105-BG-ET01	5-80-720.C	-----	12.6 kW
One light tower with Mitsubishi engine model L3E	5-80-720.C	-----	277,400 Btu/hr
One Hotsy-1410SS steam cleaner	5-80-720.A	-----	342,900 Btu/hr
One portable generator RP6500 with Caterpillar engine model r420-v	5-80-720.A	-----	6,500 watts
One pressure washer HP4040 with Honda GX390 engine	5-80-720.A	-----	11.7 HP

Insignificant emission units at the Ameresco Stafford facility include the following:

Emission Unit Description	Citation¹ (9VAC)	Pollutant(s) Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
One engine oil tank	5-80-720.C	-----	750 gallons
One portable oil tank	5-80-720.C	-----	300 gallons
Two engine oil day tanks	5-80-720.C	-----	180 gallons, each
One used oil tank	5-80-720.C	-----	650 gallons
Two 1500 kVA transformers dielectric oil	5-80-720.C	-----	362 gallons, each
One 300kVA transformer dielectric oil	5-80-720.C	-----	250 gallons

¹The citation criteria for insignificant activities are as follows:

9VAC5-80-720 A - Listed Insignificant Activity

9VAC5-80-720 B - Insignificant due to emission levels

9VAC5-80-720 C - Insignificant due to size or production rate

PERMIT SHIELD AND INAPPLICABLE REQUIREMENTS

The tub grinder engine (Ref. No. 005) was manufactured prior to the applicability date specified in 40 CFR 60.4200 (a)(2)(i). Therefore, the tub grinder engine is not subject to the new source performance standards of 40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

The current state permits for the R-Board landfill and Ameresco Stafford contain no GHG-specific BACT requirements and there have been no modifications at those plants requiring a review of GHG emissions. Therefore, there are no applicable BACT requirements for the facility specific to GHG.

The provisions of 40 CFR Part 60 Subpart Kb do not apply to the leachate storage tank since the vapor pressure of the leachate stored in the tank is less than the applicable vapor pressure specified in the subpart.

The provisions of 40 CFR Part 64 do not apply to the landfill or landfill gas-fueled generators since those facilities are subject to an NSPS and MACT proposed after November 15, 1990.

The provisions of 9VAC5-40 Article 43 do not apply to the landfill since the landfill was modified after May 30, 1991.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9VAC5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting

semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Federal Enforceability

Article 1 (9VAC5-80-110 N) states that all terms and conditions in the Title V permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

Permit Expiration

This condition refers to the DEQ taking action on a permit application. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the Code of Virginia, and the “Department of Environmental Quality Agency Policy Statement No. 2-09”.

This general condition cites the Article that follows:

Article 1 (9VAC5-80-50 et seq.), Part II of 9VAC5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

9VAC5-80-80. Application

9VAC5-80-140. Permit Shield

9VAC5-80-150. Action on Permit Applications

Failure / Malfunction Reporting

Section 9VAC5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9VAC5-20-180 is from the general regulations. All affected facilities are subject to section 9VAC5-20-180 including Title V facilities. A facility may make a single report that meets the requirements of 9VAC5-20-180. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9VAC5-50-410.

This general condition cites the sections that follow:

9VAC5-40-50. Notification, Records and Reporting

9VAC5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:

40 CFR 60.13 (h). Monitoring Requirements.

Permit Modification

This general condition cites the sections that follow:

9VAC5-80-50. Applicability, Federal Operating Permit for Stationary Sources

9VAC5-80-190. Changes to Permits

9VAC5-80-260. Enforcement

9VAC5-80-1100. Applicability, Permits for New and Modified Stationary Sources

9VAC5-80-1605. Applicability, Permits for Major Stationary Sources and Modifications

Located in Prevention of Significant Deterioration Areas

9VAC5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications

Locating in Nonattainment Areas

Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follows:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9VAC5-60-70. Designated Emissions Standards

9VAC5-80-110. Permit Content

FUTURE APPLICABLE REQUIREMENTS

There were no future applicable requirements identified in the application, and DEQ is unaware of any future requirements that may apply during the life of the Title V permit. Therefore, no future applicable requirements have been included in the permit.

CONFIDENTIAL INFORMATION

No confidential information request has been made. All portions of the Title V permit and application are available for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit will be published in *The Free Lance-Star*. A copy of the public notice will be sent to all persons on the Title V mailing list no later than the date of publication. Public comments will be accepted for 30 days.

A copy of the draft permit, supporting documents and public notice will be sent to the EPA by e-mail prior to the date of publication of the public notice.

A copy of the public notice will be sent to air quality officials in Maryland and the District of Columbia no later than the date of publication.