



pennsylvania

DEPARTMENT OF ENVIRONMENTAL
PROTECTION
SOUTHWEST REGIONAL OFFICE – AIR QUALITY PROGRAM

MEMO

TO Air Quality Permit File PA-65-00767C

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DATE April 30, 2020

RE Review of Plan Approval Application
Westmoreland Sanitary Landfill, LLC
Leachate Evaporator
Rostraver Township, Westmoreland County
APS 1003567 Auth 1291604 PF 514148

Background

On October 9, 2019, the Department of Environmental Protection (Department) received a plan approval application from The Hillcrest Group, LLC on behalf of Westmoreland Sanitary Landfill, LLC for authorization to install and operate a leachate evaporator at the facility located in Rostraver Township, Westmoreland County. Westmoreland Sanitary Landfill proposes to install the following air contamination sources under PA-65-00767C authorization at this site:

- Leachate Evaporation System (Source ID 113): One (1) Pentair Hydrocarbon Recovery Unit; One (1) Cleaver Brooks, ProFire MYHG 25.2, natural gas-fired burner, 25.2 MMBtu/hr; One (1) Heartland Water Technology, LM-HT Concentrator, Evaporator and Entrainment Separator, 45,000 gallons per day (gpd)

The leachate evaporator will be capable of treating 45,000 gallons per day of landfill fluids that will provide a volume reduction of up to 95%. A 25.2 MMBtu/hr natural gas-fired burner will be installed to supply the thermal energy needed for the evaporation process. Waste heat from the existing High-Btu Plant, which was exempted from the plan approval requirements on May

2, 2018, will also be used to replace natural gas consumption and to provide as much heat as possible to the evaporator. This exemption included the installation of a thermal oxidizer rated at 3.0 MMBtu/hr with a VOC destruction and removal efficiency of 99%. The thermal oxidizer receives and oxidizes waste gas stream generated as a byproduct of landfill gas treatment. For worst case, it is assumed that only the 25.2 MMBtu/hr natural gas-fired burner will provide all of the needed heat to the evaporator. Raw landfill fluids will be pre-treated with a hydrocarbon recovery unit. The hydrocarbon recovery unit will remove any oils which may be in the leachate. This filtration system will remove 98% of Total Suspended Solids (TSS) and 99.9% of hydrocarbons, which represent approximately 20% of Total Dissolved Solids (TDS). These pre-treated fluids will then be sent to the Concentrator where the pre-treated fluids come in direct contact with hot gas. The entrainment separator removes the liquid phase as the cooled exhaust gas is discharged via the exhaust stack. The concentrated landfill liquid residuals will be sent to the existing residual management and stabilization process that is currently in place at the facility.

The plan approval application was received on October 9, 2019. On October 10, 2019, the Department sent an administratively incomplete determination and received a response on October 18, 2019. The application was determined to be administratively complete on November 5, 2019. A technical deficiency notice was sent by the Department on November 5, 2019. A response to the technical deficiency notice was received on November 13, 2019. A second technical deficiency notice was emailed by the Department on March 24, 2020. A response to the technical deficiency notice was received by email on April 1, 2020.

A Request For Determination (RFD) was submitted to the Department by Westmoreland Sanitary Landfill on November 11, 2019, for the use of a portable screener to process soil and rock material from landfill cell excavation and construction activities. The screener utilizes a 100-hp diesel engine. This RFD is being processed as part of this plan approval application. After review, the Department has determined that the METSO Norberg ST356 Mobile Screen with Duetz BF4M2012 diesel engine is a source of minor significance and is exempt from plan approval requirements per 25 Pa. Code §127.14(d) listed as No. 44 in the Department's Air Quality Permit Exemptions (275-2101-003, August 8, 2018) under 25 Pa. Code §127.14(a)(8). It is the Department's understanding that the screener will be operated a maximum of 1,600 hours per year and will be controlled by water sprays. The Department understands that combined emissions from the screener and engine are expected to be less than 1.37 tons per year of PM, 0.51 tons per year of PM₁₀, 0.08 tons per year of PM_{2.5}, 0.05 tons per year of SO_x, 0.01 tons per year of CO, 0.06 tons per year of NO_x, 0.01 tons per year of VOC, and 0.003 tons per year of HAPs. The screener and engine are not exempt from operating permit requirements and should be included in the renewal application for TV-65-00767 at the appropriate time.

Regulatory Analysis

Federal Requirements

NSPS from 40 CFR Part 60 Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills will not apply to the proposed evaporator at this facility. This subpart applies to the landfill gas collection and control system.

NESHAP from 40 CFR Part 63 Subpart AAAA- National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills will not apply to the proposed evaporator at this facility. This subpart applies to the landfill gas collection and control system.

40 CFR Part 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. This subpart establishes emission standards and compliance schedules for the control of emissions from combustion units which is located at a major source of HAP emissions. Subpart DDDDD applies to new, reconstructed, and existing combustion units, regardless of maximum heat input capacity. This subpart will not apply to the proposed evaporator and natural gas-fired burner since Westmoreland Sanitary Landfill is not a major source of HAP.

40 CFR Part 63, Subpart JJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. This subpart establishes emission standards and compliance schedules for the control of emissions from combustion units which are located at an area source of HAP emissions. Subpart JJJJJ applies to new, reconstructed, and existing combustion units, regardless of maximum heat input capacity. Natural gas-fired boilers are exempt from any requirements under Subpart JJJJJ. This subpart will not apply to the proposed natural gas-fired burner since it is gas-fired.

Prevention of Significant Deterioration Review

On May 31, 1980, the Department adopted Prevention of Significant Deterioration (“PSD”) requirements promulgated by the United States Environmental Protection Agency (“U.S. EPA”) under the Clean Air Act. These requirements have been adopted in their entirety and incorporated by reference in 25 Pa. Code Chapter 127 Subchapter D. Per 40 CFR 52.21(a)(2)(i), “The requirements of [40 CFR Part 52.21, *Prevention of Significant Deterioration of Air Quality*] apply to the construction of any new major stationary source... or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.” Attainment or unclassifiable designations (listed under 40 CFR §81.339 for Pennsylvania) are established in reference to the National Ambient Air Quality Standards (“NAAQS”) under 40 CFR Part 50. Westmoreland Sanitary Landfill is located in an area of attainment for all NAAQS. The major source threshold for Prevention of Significant Deterioration (PSD) is potential emissions of 250 tpy of a single attainment pollutant for this type of facility. Emissions from Westmoreland Sanitary Landfill are below these thresholds; as such, this facility is classified as an area source and not subject to PSD.

State Requirements

25 Pa. Code §§123.1, 123.2 relating to fugitive emissions and §123.31 relating to malodors apply to this facility and have been included as plan approval conditions.

25 Pa. Code §123.13 – Particulate Matter Emissions will apply to the proposed evaporator. Per 25 Pa. Code §123.13(c)(1)(i), no person may permit the emission into the outdoor atmosphere of particulate matter from a process in a manner that the concentration of particulate matter in the effluent gas exceeds 0.04 grain per dry standard cubic foot, when the effluent gas volume is less than 150,000 dry standard cubic feet per minute. Based on the proposed emission rates and exhaust flow rates, the evaporator will comply with this emission limit.

25 Pa. Code § 123.21 – Sulfur Compound Emissions will apply to the proposed evaporator. Per §123.21(b), SO₂ in the effluent gas is limited to less than 500 ppmv. Based on the proposed emission rates and exhaust flow rates, the evaporator will comply with this emission limit.

25 Pa. Code §123.41 – Visible Emissions Limitations will apply. Per §123.41, visible emissions are limited to:

- Equal to or greater than 20% for a period or periods aggregating more than 3 minutes in any 1 hour.
- Equal to or greater than 60% at any time.

However, recent best available technology (BAT) determinations require visible air emissions to be less than 10% opacity in any three minute period in any hour and to less than 30% at any time. The more stringent visible emission limitations will be included in this plan approval.

25 Pa. Code § 127.1 – New air contamination sources shall control emissions to the maximum extent, consistent with BAT as determined by the Department as of the date of issuance of the plan approval for the new source. BAT is defined in 25 Pa. Code §121.1 as equipment, devices, methods, or techniques as determined by the Department which will prevent, reduce, or control emissions of air contaminants to the maximum degree possible and which are available or may be made available. The proposed sources meet the definition of new air contamination sources and therefore must meet BAT. BAT is discussed further in the BAT section of this memo.

25 Pa. Code § 127.11 – Approval by the Department is required to allow the construction of an air contamination source or the installation of an air cleaning device on an air contamination source. As such, construction of the proposed sources is prohibited prior to the applicant receiving approval by the Department (i.e. the issuance of this plan approval).

25 Pa. Code § 127.12b(c) – The plan approval must incorporate the monitoring, recordkeeping and reporting provisions required by Chapter 139 (relating to sampling and testing) and other monitoring, recordkeeping, or reporting requirements.

Based on other recent plan approvals for similar sources, this plan approval will require testing within 180 days after initial startup for NO_x, CO, VOC, PM (filterable and condensable), PM₁₀ (filterable and condensable), and PM_{2.5} (filterable and condensable). Subsequent testing will be required no less often than every five years after initial testing. The frequency for subsequent testing is consistent with other recent plan approvals for similar sources. The testing may be revised based upon the satisfactory demonstration of compliance with the emission limitations by the owner/operator.

25 Pa. Code § 127.43a – Municipal Notifications – The applicant for a plan approval shall notify the local municipality and county where the air pollution source is to be located and that the applicant has applied for the plan approval. Notifications were sent by the applicant to Rostraver Township and Westmoreland County on September 12, 2019, and delivered on September 16, 2019. Proof of receipt of the notifications were included in Section 3 of this application.

25 Pa. Code Chapter 127 Subchapter E will not apply to this facility. Per 25 Pa. Code §127.201(a), “a person may not cause or permit the construction or modification of an air contamination facility in a nonattainment area... unless the Department... has determined that the requirements of this subchapter have been met.” Westmoreland Sanitary Landfill is located in an area of attainment for all NAAQS; additionally, 25 Pa. Code §127.201(c) states that “the NSR requirements of this subchapter also apply to a facility located in an attainment area for ozone and within an ozone transport region that emits or has the potential to emit at least 50 tpy of VOC or 100 tpy of NO_x. After this project, facility-wide emissions will remain below these thresholds; therefore, NNSR does not apply.

25 Pa. Code Chapter 135 establishes requirements for recordkeeping and reporting of annual emissions and will be applicable to this facility. Annual source reports will be required to be submitted by March 1 of each year for the preceding calendar year.

25 Pa. Code Chapter 139 establishes requirements for sampling and testing and will be applicable to the proposed evaporator at this facility. This chapter establishes requirements for source testing/sampling and monitoring. Source testing must be conducted in accordance with the most recent version of the Department’s *Source Testing Manual* referenced under 25 Pa. Code §139.3. Per 25 Pa. Code §139.5(f), “A person proposing test methods, procedures, and guidance for reporting of emissions different from those contained in the *Source Testing Manual* or *Continuous Source Monitoring Manual* shall have the burden of proof to demonstrate that test methods, procedures, and guidance accurately characterize the emissions from the source. Westmoreland Sanitary Landfill will be required to perform source testing in accordance with the requirements of this chapter.

Best Available Technology Analysis

Per 25 Pa. Code § 127.1, new sources are required to control the emission of air pollutants to the maximum extent, consistent with BAT. BAT is defined in 25 Pa. Code §121.1 as “equipment, devices, methods, or techniques as determined by the Department which will prevent, reduce, or control emissions of air contaminants to the maximum degree possible and which are available

or may be made available". The Department does not prescribe or require a specific methodology to be followed to show that emissions of a new source will be the minimum attainable through BAT. The applicant's methodology is considered acceptable in this case.

NOx

Control technologies that may be used to reduce NOx emissions from natural gas burners include combustion control techniques and post combustion control devices. Combustion controls reduce the amount of NOx that is generated in the combustion process and post combustion controls reduce NOx emissions that would otherwise enter the atmosphere after combustion.

Potential post combustion NOx control technologies, such as selective catalytic reduction (SCR), have been determined to be technically infeasible for this project. The applicant's analysis concluded that control devices are not feasible due to the design of the unit and the direct contact with leachate.

The applicant has proposed to reduce emissions of NOx from the low NOx burner by adjusting control settings as set forth by the burner manufacturer to achieve a NOx emission rate of 9 ppm @ 8% O₂ and using good combustion practices. This corresponds to an emission rate of 0.015 lb/MMBtu. The same emission rate at 3% O₂ would equal approximately 12 ppm. According to burner manufacturer information, the burner operates at 60% excess air levels. The burner should not operate between 3-5% O₂, but should be operated between 6-8% O₂. The Department concurs with the applicant that the proposed NOx control technologies and using good combustion practices are consistent with BAT for the proposed burner.

CO

CO is emitted as a byproduct of incomplete combustion. Control technologies that may be used to reduce emissions include combustion control techniques and post combustion control devices. The applicant's analysis concluded that because of the nature of the exhaust, an additional combustion unit to combust CO is neither practical nor technically feasible for this operation. The Department concurs with the applicant that the installation of a low NOx burner with emission rate of 9 ppm @ 8% O₂ and using good combustion practices are consistent with BAT for the proposed burner.

SOx

Sulfur oxide (SOx) emissions are a byproduct of combustion and are based upon the sulfur content of the fuel. The proposed pipeline quality gas to be combusted at this facility is inherently low in sulfur. Due to the low sulfur content of the gas and the resulting SOx PTE (0.12 tpy), the applicant has determined that treatment of the gas to remove the sulfur is economically cost prohibitive to reduce SOx emissions. The Department concurs with the applicant that the use of pipeline quality natural gas for the natural gas-fired burner is BAT.

VOC

VOC emissions from the evaporator and natural gas burner have been estimated to be 0.78 tpy. The applicant's analysis concluded that due to the low quantity of emissions it is not feasible to install any type of air pollution control device on this system. BAT has been proposed by the applicant to be the use of a hydrocarbon recovery unit that will remove oils in the leachate prior to the evaporation system along with good combustion practices to minimize VOCs from the combustion of natural gas. The Department concurs with the applicant's proposed BAT.

PM

BAT for control of PM, PM₁₀, and PM_{2.5} has been determined to be the use of an evaporator with a three-stage demisting filtration system with a 99% removal efficiency of filterable PM. The filtration system integrates within the evaporator itself and is designed specifically for this application. It is not an add-on but works within the gas flow of the evaporator. BAT shall also be the filtering of leachate prior to it entering the evaporator. This system will remove 99.9% of all hydrocarbons and ketones, which represent approximately 19% of total dissolved solids (TDS). The Department concurs with the applicant's proposed BAT.

New Source Review (NSR) Applicability

The facility is located in Rostraver Township, Westmoreland County which is classified as an area of attainment for all National Ambient Air Quality Standards (NAAQS). The entire Commonwealth is considered a "moderate" ozone nonattainment area for NO_x and VOCs because Pennsylvania is a jurisdiction in the Ozone Transport Region established by operation of law under Section 184 of the Clean Air Act.

On May 19, 2007, the Department adopted revised New Source Review regulations in 25 Pa. Code Chapter 127 Subchapter E. Per 25 Pa. Code §127.201(a), "a person may not cause or permit the construction or modification of an air contamination facility in a nonattainment area... unless the Department... has determined that the requirements of this subchapter have been met." As stated above, Westmoreland Sanitary Landfill is located in an area of attainment for all NAAQS; additionally, 25 Pa. Code §127.201(c) states that "the NSR requirements of this subchapter also apply to a facility located in an attainment area for ozone and within an ozone transport region that emits or has the potential to emit at least 50 tpy of VOC or 100 tpy of NO_x." After this project, facility-wide emissions will remain below these thresholds; therefore, NNSR does not apply. NO_x and VOC are the only nonattainment pollutants in this case as precursors to ozone.

Sources, Control Devices, and Emissions

The applicant has proposed to install a leachate evaporator (Heartland Concentrator) capable of treating 45,000 gallons per day (gpd) of landfill fluids. Natural gas combustion will supply the thermal energy for this process. As part of the project a 25.2 MMBtu/hr natural gas-fired burner will be installed. Raw landfill fluids will be pre-treated with a hydrocarbon recovery unit. The hydrocarbon recovery unit will remove any oils which may be in the leachate. This filtration

system will remove 98% of Total Suspended Solids (TSS) and 99.9% of hydrocarbons, which represent approximately 20% of Total Dissolved Solids (TDS). These pre-treated fluids will then be sent through the evaporation and entrainment separation process. The processed vapor, along with the combustion products from the natural gas burner, will then exhaust through the stack. The concentrated landfill liquid residuals will be sent to the existing residual management and stabilization process that is currently being used at the landfill.

The Heartland Concentrator is a patented continuous evaporator that replaces heat exchangers by directly contacting the exhaust gas from the natural gas-fired burner with the wastewater feed within a compact turbulent evaporation zone. The evaporator utilizes a proprietary three-stage demisting filtration system which is able to achieve a 99% removal efficiency of filterable PM. This factor is guaranteed by Heartland. An in-line patented entrainment separator removes the liquid phase as the cooled exhaust gases are discharged to the atmosphere.

Emissions were calculated by the applicant for the 25.2 MMBtu/hr natural gas-fired burner and evaporator based upon manufacturer’s emissions data, AP-42 Chapter 1.4 emission factors, and an operating time of 8,760 hours per year. Calculations have been found acceptable and emissions from the evaporator are shown in Table 1 below.

Table 1: Evaporator Emissions

Pollutant	PTE	
	lb/hr	tpy
NOx	0.38	1.65
CO	0.23	1.00
VOC	0.18	0.78
Total HAPs	0.05	0.22
Total PM ^a	1.70	7.45
SOx	0.03	0.12
NH ₃ ^d	0.02	0.08
GHGs (as CO ₂ e)	-	12,986

^a The applicant has assumed PM=PM₁₀=PM_{2.5}

Table 2 below shows the facility-wide emissions after this project based upon the emission calculations from the most recent Title V application and the above evaporator emissions.

Table 2: Facility-Wide Emissions

Pollutant	Emission Rate (tpy)
NOx	54.06
CO	44.88
PM ₁₀	72.61
PM _{2.5}	16.09
SOx	11.47
VOC	26.16
HAP	12.53
CO ₂ e	180,298

Conclusions and Recommendations

After review, I have determined that the applicant has demonstrated in this application that the construction and initial operation of the proposed leachate evaporator at the Westmoreland Sanitary Landfill located in Rostraver Township, Westmoreland County meets all applicable requirements. Therefore, I recommend issuance of a plan approval for a period of 18-months with the following special conditions.

Special Conditions

RESTRICTIONS

1. No person may permit air pollution as that term is defined in the act [25 Pa. Code §121.7].
2. The permittee may not permit the emission into the outdoor atmosphere of a fugitive air contaminant from a source other than those allowed under 25 Pa. Code §123.1 [25 Pa. Code §123.1].
3. The Owner/Operator may not permit fugitive particulate matter to be emitted into the outdoor atmosphere from a source specified in 25 Pa. Code §123.1(a)(1)-(9) (relating to prohibition of certain fugitive emissions) if the emissions are visible at the point the emissions pass outside the Owner/Operator's property. [25 Pa. Code §123.2]
4. No person may permit the emission into the outdoor atmosphere of particulate matter from any process in a manner that the concentration of particulate matter in the effluent gas exceeds .04 grain per dry standard cubic foot, when the effluent gas volume is less than 150,000 dry standard cubic feet per minute [25 Pa. Code §123.13]
5. (a) This section applies to sources except those subject to other provisions of this article, with respect to the control of sulfur compound emissions [25 Pa. Code §123.21].

(b) No person may permit the emission into the outdoor atmosphere of sulfur oxides from a source in a manner that the concentration of the sulfur oxides, expressed as SO₂, in the effluent gas exceeds 500 parts per million, by volume, dry basis.
6. A person may not permit the emission into the outdoor atmosphere of any malodorous air contaminants from any source, in such a manner that the malodors are detectable outside the property of the person on whose land the source is being operated [25 Pa. Code §123.31].
7. The visible emission limitations shall not apply to a visible emission in any of the following instances [25 Pa. Code §123.42]:

- (a) When the presence of uncombined water is the only reason for failure of the emission to meet the limitations.
- (b) When the emission results from the operation of equipment used solely to train and test persons in observing the opacity of visible emissions.
- (c) When the emission results from sources specified in §123.1(1)–(9).
- (d) N/A

TESTING REQUIREMENTS

- 8. If, at any time, the Department has cause to believe that air contaminant emissions from the sources listed in this plan approval may be in excess of the limitations specified in, or established pursuant to this plan approval or the permittee's operating permit, the permittee may be required to conduct test methods and procedures deemed necessary by the Department to determine the actual emissions rate. Such testing shall be conducted in accordance with 25 Pa. Code Chapter 139, where applicable, and in accordance with any restrictions or limitations established by the Department at such time as it notifies the company that testing is required [25 Pa. Code §127.12b].
- 9. Performance testing shall be conducted as follows [25 Pa. Code §127.12b and §139.11]:
 - (a) The permittee shall submit two hard copies and one electronic copy of a pre-test protocol to the Department for review within 60 days of plan approval issuance. All proposed performance test methods shall be identified in the pre-test protocol and approved by the Department prior to testing.
 - (b) The permittee shall notify the Regional Air Quality Manager and Division of Source Testing and Monitoring at least 15 days prior to any performance test so that an observer may be present at the time of the test. This notification may be sent by email. Notification shall not be made without prior receipt of a protocol acceptance letter from the Department.
 - (c) Pursuant to 40 CFR Part 60.8(a), a complete test report shall be submitted to the Department no later than 60 calendar days after completion of the on-site testing portion of an emission test program.
 - (d) Pursuant to 25 Pa. Code Section 139.53(b), a complete test report shall include a summary of the emission results on the first page of the report indicating if each pollutant measured is within permitted limits and a statement of compliance or non-compliance with all applicable permit conditions. The summary results will include, at a minimum, the following information:
 - (1) A statement that the owner or operator has reviewed the report from the emissions testing body and agrees with the findings.
 - (2) Permit number(s) and condition(s) which are the basis for the evaluation.
 - (3) Summary of results with respect to each applicable permit condition.
 - (4) Statement of compliance or non-compliance with each applicable permit condition.

- (e) Pursuant to 25 Pa. Code § 139.3, all submittals shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.
- (f) All testing shall be performed in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department of Environmental Protection.
- (g) Pursuant to 25 Pa. Code Section 139.53(a)(1) and 139.53(a)(3) all hard copy submittals shall be sent to the Pennsylvania Department of Environmental Protection, Air Quality Program, 400 Waterfront Drive, Pittsburgh, PA 15222 with deadlines verified through document postmarks. Electronic submittals shall be sent to RA-epstacktesting@pa.gov. Alternatively, electronic copies may be provided on a CD along with hard copy submittals.

MONITORING REQUIREMENTS

10. Visible emissions may be measured using either of the following [25 Pa. Code §123.43]:
- (a) A device approved by the Department and maintained to provide accurate opacity measurements.
 - (b) Observers, trained and qualified to measure plume opacity with the naked eye or with the aid of devices approved by the Department.
11. A facility-wide inspection shall be conducted at a minimum of once each day at the Facility by the Owner/Operator. The facility-wide inspection shall be conducted for the presence of the following: [25 Pa. Code §127.12b]
- (a) Visible stack emissions;
 - (b) Fugitive emissions; and
 - (c) Potentially objectionable odors at the property line.

These observations are to ensure continued compliance with source-specific visible emission limitations, fugitive emissions prohibited under 25 Pa. Code §§123.1 or 123.2, and malodors prohibited under 25 Pa. Code §123.31. Observations for visible stack emissions shall be conducted during daylight hours and all observations shall be conducted for all sources in operation at the time of the facility-wide inspection. If visible stack emissions, fugitive emissions, or potentially objectionable odors are apparent, the Owner/Operator shall take corrective action. Records of each inspection shall be maintained in a log and at the minimum include the date, time, name and title of the observer, along with any corrective action taken as a result.

RECORDKEEPING REQUIREMENTS

12. The permittee shall maintain the following comprehensive and accurate records [25 Pa. Code §127.12b]:

- (a) Facility-wide emissions on a 12-month rolling basis for NO_x, CO, SO_x, VOC, PM, PM₁₀, PM_{2.5}, NH₃, total HAPs, and CO_{2e}.
- (b) Results of facility-wide inspections for visible stack emissions, fugitive emissions, and/or potentially objectionable odors including the date, time, name, and title of the observer, along with any corrective action taken as a result.
- (c) Copies of the manufacturer's recommended maintenance schedule for each air source and air cleaning device.
- (d) All maintenance performed on each source and air cleaning device.

13. All logs and required records shall be maintained on site, or at an alternative location acceptable to the Department, for a minimum of five years and shall be made available to the Department upon request [25 Pa. Code §127.12b].

REPORTING REQUIREMENTS

14. In accordance with 25 Pa. Code § 135.3, the owner or operator of a facility shall submit to the Department via AES*Online or AES*XML at www.depgreenport.state.pa.us/ by March 1st of each year, a facility inventory report for the preceding calendar year for all sources regulated under this plan approval. The inventory report shall include all emissions information for all sources operated during the preceding calendar year. Emissions data including, but not limited, to the following shall be reported [25 Pa. Code §127.12b]:

- (i) NO_x;
- (ii) CO;
- (iii) SO_x;
- (iv) PM₁₀;
- (v) PM_{2.5};
- (vi) VOC;
- (vii) Speciated HAP including, but not limited to, benzene, ethyl benzene, formaldehyde, n-hexane, toluene, isomers and mixtures of xylenes, and 2,2,4-trimethylpentane;
- (viii) Total HAP;
- (ix) CO₂;
- (x) CH₄; and
- (xi) N₂O.

15. Malfunction reporting shall be conducted as follows [25 Pa. Code §127.12b]:

- (a) The Owner/Operator shall report each malfunction that occurs at this Facility that poses an imminent and substantial danger to the public health and safety or the environment or which it should reasonably believe may result in citizen complaints to the Department. For purpose of this condition a malfunction is defined as any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment or source to operate in a normal or usual manner that may result in an increase in the emission of air contaminants. Examples of malfunctions may include, but are not limited to: large dust plumes, heavy smoke, a spill or release that results in a malodor that is detectable outside the property of the person on whose land the source is being operated.

- (b) When the malfunction poses an imminent and substantial danger to the public health and safety, potential harm to the environment, the permittee shall report the incident to the Department within one hour of discovery. The permittee shall also notify the Department within one hour, when corrective measures have been accomplished.

All other malfunctions that must be reported under subsection (a) shall be reported to the Department no later than the next business day.

- (c) Initial reporting of the malfunction shall identify the following items to the extent known:

- (1) Name and location of the facility;
- (2) Nature and cause of the malfunction;
- (3) Time when the malfunction or breakdown was first observed;
- (4) Expected duration of increased emissions; and
- (5) Estimated rate of emissions.

- (d) If requested by the Department, the permittee shall submit a full written report to the Department including final determinations of the items identified in (3) and the corrective measures taken on the malfunction. The report shall be submitted within 15 days of the Department's request or accomplishing corrective measures, whichever is later.

- (e) Malfunctions shall be reported to the Department by e-mail (addresses will be provided by the Department) or at the following address:

PA DEP
Office of Air Quality
400 Waterfront Drive
Pittsburgh, PA 15222-4745
412-442-4000

WORK PRACTICE REQUIREMENTS

16. The permittee shall construct, operate, and maintain all air contamination sources and air cleaning devices authorized under this Plan Approval in accordance with the manufacturer's specifications and recommended maintenance schedules [25 Pa. Code § 127.12b].

ADDITIONAL REQUIREMENTS

17. Air contamination sources and air cleaning devices authorized for construction and initial operation under this plan approval include [25 Pa. Code § 127.12b]:

- Leachate Evaporation System: One (1) Pentair Hydrocarbon Recovery Unit; One (1) Cleaver Brooks, ProFire MYHG 25.2, natural gas-fired burner, 25.2 MMBtu/hr; One (1) Heartland Water Technology, LM-HT Concentrator, Evaporator and Entrainment Separator, 45,000 gallons per day (gpd)

18. Upon determination by the permittee that the air contamination sources and air cleaning devices covered by this plan approval are in compliance with all conditions of the plan approval, the permittee shall contact the Department's technical reviewer and schedule the Initial Operating Permit Inspection [25 Pa. Code §127.12b].
19. Upon completion of the Initial Operating Permit Inspection and determination by the Department that the permittee is in compliance with all conditions of the plan approval, the permittee shall submit either an administrative amendment to incorporate PA-65-00767C and the existing High Btu Plant into Title V Operating Permit or update to a pending Title V Operating Permit application (as appropriate) for this Facility within 60 days, as applicable [25 Pa. Code §127.12b].
20. The permittee shall submit requests to extend the temporary operation periods at least 15 days prior to the expiration date of any authorized period of temporary operation [25 Pa. Code §127.12b].

Source Level Requirements

LEACHATE EVAPORATION SYSTEM (Source ID 113)

RESTRICTIONS

21. The leachate evaporation system shall be limited to processing 45,000 gallons of landfill fluids per calendar day. [25 Pa. Code §127.12b]
22. The Leachate Evaporation System shall be used only for processing landfill fluids. [25 Pa. Code §127.12b]
23. The 25.2 MMBtu/hr natural gas-fired burner shall fire only pipeline quality natural gas. [25 Pa. Code §127.12b]
24. Emissions of CO and NO_x shall each not exceed 9 ppm at 8% O₂. [25 Pa. Code §127.12b]
25. The hydrocarbon recovery unit of the Leachate Evaporation System shall be operated to control VOC content of the landfill fluids by 99.8%, or shall have an outlet VOC concentration not to exceed 3.4 mg/l. [25 Pa. Code §127.12b]
26. Filterable PM emissions from the Heartland Water Technology, LM-HT Concentrator, Evaporator and Entrainment Separator shall not exceed an outlet concentration of 0.006 grains per dry standard cubic foot (gr/dscf). [25 Pa. Code §127.12b]
27. The emissions from the leachate evaporation system (Source ID 113) shall not exceed the following on a lb/hr and 12-month rolling tpy basis: [25 Pa. Code §127.12b]

Pollutant	lb/hr	tpy
CO	0.23	1.00
NO _x	0.38	1.65
PM (Total)	1.70	7.45
PM ₁₀	1.70	7.45
PM _{2.5}	1.70	7.45
SO _x	0.03	0.12
VOC	0.18	0.78
HAP	0.05	0.22
NH ₃	0.02	0.08

TESTING REQUIREMENTS

28. (a) The permittee shall conduct weekly sampling of the landfill wastewater prior to the hydrocarbon recovery unit and post hydrocarbon recovery unit for VOC, Total Dissolved Solids (TDS), Sulfur Compounds, and HAP concentration. After the first quarter of sampling, if all weekly results are within 10% of each other, the facility may proceed to monthly sampling for VOC, TDS, Sulfur Compounds, and HAP concentration. [25 Pa. Code §127.12b]

(b) Within 180 days after initial startup, or on an alternative schedule as approved by the Department, and at a minimum of once every five years thereafter, the permittee shall conduct EPA reference method stack testing for NO_x, CO, SO₂, VOC, PM (filterable and condensable), PM₁₀ (filterable and condensable), and PM_{2.5} (filterable and condensable) in accordance with 25 Pa Code Chapter 139 and applicable EPA reference methods. Water sampling as specified in part (a) shall be performed during the testing.

(c) Stack testing shall verify compliance with the NO_x, CO, SO_x, VOC, PM (filterable and condensable), PM₁₀ (filterable and condensable), and PM_{2.5} (filterable and condensable) emission limitations, as well as VOC and filterable PM/PM₁₀/PM_{2.5} removal efficiency.

29. Performance tests shall be conducted while the source is operating at maximum routine operating conditions or under such other conditions, within the capacity of the equipment, as may be requested by the Department [25 Pa. Code §139.11(1)].

30. The permittee shall conduct subsequent EPA reference method stack testing for NO_x, CO, SO₂, VOC, PM (filterable and condensable), PM₁₀ (filterable and condensable), and PM_{2.5} (filterable and condensable) no less than once every five years after initial testing. The frequency of such subsequent testing may be altered based on the test results and only with prior written approval from the Department [25 Pa. Code §127.12b].

MONITORING REQUIREMENTS

31. The permittee shall monitor the volumetric flowrate of leachate to the Leachate Evaporator System. [25 Pa. Code §127.12b].

RECORDKEEPING REQUIREMENTS

32. The permittee shall maintain the following comprehensive and accurate records [25 Pa. Code §127.12b]:
- (a) Volumetric flowrate of leachate to the Leachate Evaporation System on a daily, monthly, and 12-month rolling total basis.
 - (b) Hours of operation of the Leachate Evaporation System on a monthly and 12-month rolling total basis.
 - (c) Natural gas fuel consumption on a monthly and 12-month rolling total basis.
 - (d) The date and detailed description of any maintenance conducted on the Leachate Evaporation System; and
 - (e) Records of annual tune-ups/inspections on the burner which shall, at a minimum, include the following:
 - (i) The concentrations of CO and NO_x in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the burner;
 - (ii) A description of any corrective actions taken as part of the tune-up; and
 - (iii) The date(s) the annual tune-up/inspection was conducted.
33. All logs and required records shall be maintained on site, or at an alternative location acceptable to the Department, for a minimum of five years and shall be made available to the Department upon request [25 Pa. Code §127.12b].

WORK PRACTICE REQUIREMENTS

34. The permittee shall conduct an annual tune-up/inspection on the 25.2 MMBtu/hr natural gas-fired burner. At a minimum the tune-up/inspection shall consist of the following: [25 Pa. Code §127.12b]
- (a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary;
 - (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
 - (c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;
 - (d) Optimize total emissions of CO and NO_x. This optimization should be consistent with the manufacturer's specifications, if available; and
 - (e) Measure the concentrations in the effluent stream of CO and NO_x in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO and NO_x analyzer as long as it is calibrated and operated according to the manufacturer's recommendations.

35. The permittee shall maintain the air contamination source and air cleaning device in accordance with the manufacturer's recommendations. The maintenance schedule for this equipment and records of all maintenance activities performed on this equipment shall be maintained on-site and be made available to the Department upon request. [25 Pa. Code §127.12b]