Waste Management of Leon County, Inc.
Springhill Regional Landfill

Facility ID No. 0630045
Jackson County

Title V Air Operation Permit Renewal

Permit No. 0630045-008-AV
(Renewal of Title V Air Operation Permit No. 0630045-007-AV)

Proposed

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road
Mail Station #5505
Tallahassee, Florida 32399-2400

Telephone: (850) 717-9000
Fax: (850) 717-9097

Compliance Authority:

Department of Environmental Protection
Northwest District Office
160 Governmental Center, Suite 308
Pensacola, Florida 32502-5794
Telephone: 850/595-8300
Fax: 850/595-8096

Title V Air Operation Permit Renewal

Permit No. 0630045-008-AV

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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
BOB MARTINEZ CENTER
2600 BLAIRSTONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

PERMITTEE:
Waste Management of Leon County, Inc.
4945 Highway 273
Campbellton, Florida 32426

Permit No. 0630045-008-AV
Springhill Regional Landfill
Facility ID No. 0630045
Title V Air Operation Permit Renewal

The purpose of this permit is to renew the Title V air operation permit for the above referenced facility. The existing Springhill Regional Landfill is located in Jackson County at 4945 Highway 273, Campbellton. UTM Coordinates are: Zone 16, 648.78 km East and 3422.16 km North. Latitude is: 30° 55' 30.3873" North; and, Longitude is: 85° 25' 38.2329" West.

The Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. The above named permittee is hereby authorized to operate the facility in accordance with the terms and conditions of this permit.

0630045-008-AV Effective Date: DATE, 20xx
Renewal Application Due Date: Exp. DATE -225, 20zz
Expiration Date: Eff. DATE + 5 years, 20zz

(Proposed)

for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

JFK/dr/jh

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Subsection A. Facility Description.

The Springhill Regional Landfill is a 664-acre Class I Municipal Solid Waste (MSW) Landfill. The facility operates a landfill gas collection system for two independent landfill sections with approximately 39 acres in the north section (North Landfill), and 228 acres in the south section (South Landfill); and, a landfill gas recovery/electric generating plant.

The North Landfill first accepted waste in 1983 and ceased accepting waste in July 1999. A closure notification was submitted on June 10, 2002, and the current solid waste closure permit 127123-0021-SF expires October 3, 2017. The South Landfill first began accepting waste on July 26, 1999, and is expected to operate until 2039 based on estimated future waste acceptance rates. The South Landfill's current solid waste permit 0000475-013-SO expires September 13, 2009. The North and South Landfills together exceed 2.5 million megagrams in design capacity (total is 27 million megagrams) and the generation of NMOC exceeds 50 megagrams per year, therefore, the facility installed and operates a gas collection and control system in compliance with 40 CFR 60 Subpart WWW and 40 CFR 63 Subpart AAAA.

The gas collection system on the North Landfill consists of approximately 47 gas extraction wells, a condensate collection system, a direct drive centrifugal fan, and all associated piping. Start-up for this North Landfill system was June 3, 1996.

The gas collection system in the South Landfill is being expanded as disposal cells are being constructed (currently filling cell 5 of 13 cells). When complete, the south system will have approximately 83 wells. Collected landfill gas from both the North Landfill and the South Landfill is piped to the landfill gas treatment system and then to the landfill gas recovery/electric generating plant. The facility does not operate a bioreactor.

Serving both North and South Landfill as the landfill gas control system, the gas recovery/electric generating plant consists of six G3516 Caterpillar reciprocating engines, which convert landfill gas to electricity. The facility is capable of combusting 2.7 million cubic feet of landfill gas per day while producing 4.9 megawatts of electricity (810 kilowatts per engine). The electrical power produced is delivered to the utility grid where it is distributed to homes and businesses. The engines can be operated continuously with the exception of downtime for routine maintenance activities. The system also includes a gas treatment process to prepare the landfill gas for use in the engines. The treatment process utilizes filtration, dewatering and a single compressor to prepare the landfill gas for combustion. Based on several EPA determinations, the treatment of landfill gases prior to its combustion, based on EPA's definition of "treatment system", the combustion of landfill gases after treatment is not subject to the requirements of 40 CFR 60.752(b)(2)(iii)(B) – Subpart WWW. A flare (3,000 cfm) is utilized for managing excess landfill gas and as a backup for the plant during maintenance shutdowns.

The facility is not a major source of HAP, based on the permit application received November 11, 2013. Total HAP are estimated to be approximately 17 tons/yr; with the greatest single HAP (toluene) approximately 6 tons/yr in the peak year of 2040.

The facility, however, is a major source of non-HAP pollutants per Title V Regulations (carbon monoxide is estimated to be 236.72 tons/yr during year 2040, the expected peak year of emissions). Yearly waste acceptance is estimated to be 646,238 Mg (712,500 tons). Both North and South Landfills have accepted asbestos. The North Landfill is now an inactive asbestos waste disposal site, and the South Landfill is an active asbestos waste disposal site. This facility is not a major source with respect to the prevention of significant deterioration (PSD) New Source Review regulations.

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The estimated potential emissions (Tons/Year) from the facility are as follows:

UNITS	NO_X	CO	SO_2	HAP	PM/PM_{10}	VOC/NMOC
6 Engines	132.72	166.62	39.30	0.24	12.24	1.50
Backup Flare	18.70	70.10	8.00	0.11	8.70	2.70
Landfill Fugitives	N/A	N/A	N/A	1.38	N/A	38.82
Solidification Unit	N/A	N/A	N/A	0.57	0.01	0.57
Fugitive Dust	N/A	N/A	N/A	N/A	31.75	N/A
TOTALS	151.42	236.72	47.30	2.30	52.70	43.59

This facility requires a Title V air operation permit both by designation (40 CFR 60 subpart WWW) and by being a major source of emissions (NO_X & CO).

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Subsection B. Summary of Emissions Units.

EU No.	Brief Description
Regulated Emissions Units	
001	North Landfill (Closed) and Gas Collection System
004	South Landfill and Gas Collection System
005	Landfill Gas Treatment/Electric Generating Plant
006	Flare System
Unregulated Emissions Units and Activities (see Appendix U, List of Unregulated Emissions Units and/or Activities)	
003	Heavy Vehicular Traffic On Unpaved Roads

Also included in this permit are miscellaneous insignificant emissions units and/or activities (see Appendix I, List of Insignificant Emissions Units and/or Activities).

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Subsection C. Applicable Regulations.

The facility is not a major source of HAP, based on the permit application received November 11, 2013. Total HAP are estimated to be approximately 17 tons/yr; with the greatest single HAP (toluene) approximately 6 tons/yr in the peak year of 2040. The existing facility is not a prevention of significant deterioration (PSD) major source of air pollutants in accordance with Rule 62-212.400, F.A.C. A summary of applicable regulations is shown in the following table.

Regulation	EU No(s).
Federal Rule Citations	
40 CFR 60, Subpart A, NSPS General Provisions	004, 005, 006
40 CFR 60.18, Requirements for Flares	006
40 CFR 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills	004, 005, 006
40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (if engines ever replaced with new)	005
40 CFR 61, Subpart M, National Emission Standard for Asbestos	001, 004, 005, 006

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Regulation	EU No(s).
40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills	004, 005, 006
40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	005

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Proposed

The following conditions apply facility-wide to all emission units and activities:

FW1. Appendices. The permittee shall comply with all documents identified in Section IV, Appendices, listed in the Table of Contents. Each document is an enforceable part of this permit unless otherwise indicated. [Rule 62-213.440, F.A.C.]

Emissions and Controls

FW2. Not federally Enforceable. Objectionable Odor Prohibited. No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rule 62-296.320(2) and 62-210.200(Definitions), F.A.C.]

FW3. General Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed-necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]

{Permitting Note: Nothing is deemed necessary and ordered at this time.}

FW4. General Visible Emissions. No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b), F.A.C.]

FW5. Unconfined Particulate Matter. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:

a. Controlling the speed of vehicular traffic by posting and enforcing the speed limits on all roads inside the landfill to minimize fugitive dust emissions generated by vehicles.
b. Use of a water truck to wet the unpaved roads to suppress dust, as needed.
c. Inspection and maintenance of liquid waste solidification process fugitive dust collectors prior to use to ensure proper operation for meeting design standard of less than 5% visible emissions. (This design standard does not impose a specific testing requirement.)

[Rule 62-296.320(4)(c), F.A.C.; and, proposed by applicant in Title V air operation permit renewal application received November 11, 2013.]

Annual Reports and Fees

See Appendix RR, Facility-wide Reporting Requirements for additional details.

FW6. Electronic Annual Operating Report and Title V Annual Emissions Fees. The information required by the Annual Operating Report for Air Pollutant Emitting Facility [Including Title V Source Emissions Fee Calculation] (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's Division of Air Resource Management. Each Title V source shall submit the annual operating report using the DEP's Electronic Annual Operating Report (EAOR) software, unless the Title V source claims a technical or financial hardship by submitting DEP Form No. 62-210.900(5) to the DEP Division of Air Resource Management instead of using the reporting software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. Each Title V source must pay between January 15 and April 1 of each year an annual emissions fee in an amount determined as set forth in subsection 62-213.205(1), F.A.C. The annual fee shall only apply to those regulated pollutants, except carbon monoxide and greenhouse gases, for which an allowable numeric

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emission-limiting standard is specified in the source's most recent construction permit or operation permit. Upon completing the required EAOR entries, the EAOR Title V Fee Invoice can be printed by the source showing which of the reported emissions are subject to the fee and the total Title V Annual Emissions Fee that is due. The submission of the annual Title V emissions fee payment is also due (postmarked) by April 1st of each year. A copy of the system-generated EAOR Title V Annual Emissions Fee Invoice and the indicated total fee shall be submitted to: **Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070.** Additional information is available by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: http://www.dep.state.fl.us/air/emission/tvfee.htm. [Rules 62-210.370(3), 62-210.900 & 62-213.205, F.A.C.; and, §403.0872(11), Florida Statutes (2013)]

{Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: http://www.dep.state.fl.us/air/emission/eaor. If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us.}

{Permitting Note: The Title V Annual Emissions Fee form (DEP Form No. 62-213.900(1)) has been repealed. ***A separate Annual Emissions Fee form is no longer required to be submitted by March 1st each year.****}*

FW7. Annual Statement of Compliance. The permittee shall submit an annual statement of compliance to the compliance authority at the address shown on the cover of this permit within 60 days after the end of each calendar year during which the Title V permit was effective. [Rules 62-213.440(3)(a)2. & 3. and (b), F.A.C.]

FW8. Prevention of Accidental Releases (Section 112(r) of CAA). If, and when, the facility becomes subject to 112(r), the permittee shall:

a. Submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent electronically through EPA's Central Data Exchange system at the following address: https://cdx.epa.gov. Information on electronically submitting risk management plans using the Central Data Exchange system is available at: http://www.epa.gov/osweroe1/content/rmp/index.htm. The RMP Reporting Center can be contacted at: RMP Reporting Center, Post Office Box 10162, Fairfax, VA 22038, Telephone: (703) 227-7650.
b. Submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C.

[40 CFR 68]

FW9. Permittee shall submit all compliance related notifications and reports required of this permit to the Department's Northwest District Office at the address listed on the cover page of this permit. Notification of compliance testing may be submitted by electronic mail to nwdair@dep.state.fl.us. A copy of all compliance related notifications shall be sent to the Northwest District Branch Office in Panama City at 2353 Jenks Ave, Panama City FL 32405. [Rule 62-213.440(1)(b), F.A.C.]

Other Requirements

FW10. Open Burning. This Specific Condition has precedence over Specific Condition **TV35**. of Appendix TV-Title V General Conditions, with respect to on-site land clearing activities only.

a. Open burning of vegetative material originating on site, between the hours of 9:00 a.m. and one hour before sunset of the same day in connection with land clearing operations is allowed, provided that authorization is secured from the Division of Forestry of the Department of Agriculture and Consumer Services prior to burning. Authorization will be obtained from the Florida Division of Forestry prior to igniting the burn on the day that the burn is to take place, or after 4:00 p.m. of the previous evening.
b. The Division of Forestry shall suspend any open burning authorization and require burns in progress to be extinguished when appropriate, whenever atmospheric or meteorological conditions indicate improper dispersion of pollutants creating conditions deleterious to health, safety, or general welfare, or which

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would obscure visibility of vehicular or air traffic. Any burn in progress will be allotted two hours to reduce emissions to a level that no longer threatens public health or safety.

c. All open burning must be attended at all times.

d. Pile Burning. Piles or windrows to be burned shall be of such a size that visible flame shall not be permitted after one hour before sunset, except in smoke sensitive areas where the piles must be completely extinguished one hour before sunset. The size and number of piles shall be dictated by the materials to be burned and by the time available for burning.

(1) The moisture content and composition of the materials to be burned shall be favorable to good burning that will minimize air pollution. The amount of dirt in the piles or rows shall be minimized to enhance combustion and reduce emissions.

(2) The open burning must be set back 100 feet from any paved public highway and the prevailing winds will direct the smoke away from the occupied buildings or roads.

(3) Rural Land Clearing. Open burning of wooden material or vegetation generated by a land clearing operation is allowed provided that the following setback of 1,000 feet or more away from any occupied building is met. Exceptions to the setback requirements from occupied buildings shall be granted by the Division of Forestry when the applicant obtains a signed written statement from every affected resident within the setback area that waives his objections to the open burning associated with the land clearing operation and presents the statement to the Division of Forestry forty-eight (48) hours in advance of the burning.

e. Any open burning that is allowed by this Chapter is restricted to the site where the material to be burned was generated and such material shall not be transported to another property to be open burned.

[Rules 62-256 & 62-296.320(3), F.A.C.]

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Subsection A. Emissions Unit 001

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
001	North Landfill (closed) and Gas Collection System

The North Landfill is located on a 39-acre parcel which first began accepting waste in 1983 and ceased accepting waste in July 1999. A closure report for the Springhill North Landfill was submitted to EPA on June 10, 2002. The closure was officially recognized through the issuance of Solid Waste closure permit No. 0127123-001-SF, which was effective on October 9, 2002. The North Landfill has met all of the requirements contained in 40 CFR 60.752(b)(2)(v)(A), (B), and (C) to qualify for the capping or removal of the gas collection system. As such, it is no longer subject to regulation pursuant to 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills or 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. Although the gas collection system is no longer required to be maintained and operated pursuant to Subpart WWW, because this facility also includes a gas recovery/electric generating plant, the gas collection system will voluntarily remain place in order to continue to recover any remaining gas in the closed system to be used for electrical generation purposes.

The existing gas collection system consists of approximately 47 gas extraction wells, a condensate collection system, a direct drive centrifugal fan, and all associated piping. Collected landfill gas is piped to the landfill gas treatment system, then to the landfill gas recovery/electric generating plant and/or back-up flare.

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{Permitting Note: This emissions unit is no longer regulated pursuant to 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills or 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. However, this emissions unit is regulated under 40 CFR Part 61, Subpart M - National Emission Standard for Asbestos (adopted and incorporated by reference in Rule 62-204.800(10)(b)8., F.A.C.), but only to the extent that Subpart M regulates closed landfills that once received asbestos containing waste.}

Essential Potential to Emit (PTE) Parameters

A.1. Hours of Operation. The voluntary gas collection system may operate continuously (8,760 hours/year). [Rule 62-210.200(PTE), F.A.C.]

Operational Requirements

A.2. Gas Collection System. Until the gas collection system is either capped or removed, the system shall be maintained to ensure that all collected landfill gas is piped to the landfill gas treatment system and then to the landfill gas recovery/electric generating plant and/or back-up flare (see Subsections C. and D., below). In no case shall collected/uncontrolled gas be vented directly to the atmosphere. [Rule 62-213.440(1), F.A.C. and Permit No. 0630045-005-AC]

A.3. Standards for Inactive Asbestos Waste Disposal Site. Because this closed landfill contains asbestos-containing waste material, the owner or operator shall:

(a) Comply with one of the following:

(1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or

(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, non-asbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or

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(3) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted non-asbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or
(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (1), (2) or (3) of this condition. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph a.(2) or a.(3) of this condition.
(1) Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:
(a) Be posted in such a manner and location that a person can easily read the legend; and
(b) (Conform to the requirements for 51 cm×36 cm (20″×14″) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
(c) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	**Notation**
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.
(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.
(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.

(c) The owner or operator may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of paragraph a. or b. of this condition.

(d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, and follow the procedures specified in the notification. (See **Specific Condition A.4**.) If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:
(1) Scheduled starting and completion dates.
(2) Reason for disturbing the waste.
(3) (3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.
(4) (4) Location of any temporary storage site and the final disposal site.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:
(1) The land has been used for the disposal of asbestos-containing waste material;

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(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in §61.154(f) have been filed with the Administrator; and
(3) The site is subject to 40 CFR Part 61, Subpart M.

[40 CFR 61.151 & 154(g)]

Reporting Requirement

A.4. Asbestos Disturbance Notification. The owner or operator must notify the compliance office in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. (See **Specific Condition A.3.d**.) If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the compliance office at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

a. Scheduled starting and completion dates.
b. Reason for disturbing the waste.
c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.
d. Location of any temporary storage site and the final disposal site

[40 CFR 61.154(j)]

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The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
004	South Landfill and Gas Collection System

The South Landfill is located on a 183-acre parcel which first began accepting waste on July 26, 1999, and is expected to operate until 2039 based on estimated future waste acceptance rates.

The North and South Landfills together exceed 2.5 million megagrams in design capacity (total is 27 million megagrams) and the generation of non-methane organic compounds (NMOC) exceeds 50 megagrams per year, therefore, the facility installed and operates a gas collection and control system in compliance with 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills and 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The South Landfill gas collection and control system will be expanded as new disposal cells are constructed (currently filling cell 5 of 13 cells). When complete, the south system will have approximately 83 gas extraction wells, a condensate collection system, two direct drive centrifugal fans, and all associated piping. Collected landfill gas is piped to the landfill gas treatment system, then to the landfill gas recovery/electric generating plant and/or back-up flare. If the electric generating plant is out of service, the collected gas bypasses the treatment system and is piped directly to the flare for control of NMOC. Based on the date of initial acceptance of municipal solid waste (July 26, 1999), the deadline for initial startup of the gas collection and control system was September 25, 2004. Additional extraction wells in addition to those proposed in the Design Plan, dated October 2002, can be installed as needed to remain in compliance.

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{Permitting Note: Additional wells are authorized by 40 CFR 60.755(c)(4) and do not require a construction permit. This emissions unit is regulated pursuant to 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills (adopted and incorporated in Rule 62-204.800(8)(b)76., F.A.C.), 40 CFR Part 61, Subpart M - National Emission Standard for Asbestos (adopted and incorporated by reference in Rule 62-204.800(10)(b)8., F.A.C.), and 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (adopted and incorporated by reference in Rule 62-204.800(11)(b)59., F.A.C.).}

Essential Potential to Emit (PTE) Parameters

B.1. Hours of Operation. The south landfill and gas collection system are allowed to operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C. and permit No. 0630045-001-AC]

Control Technology

B.2. Landfill Gas Collection System. The owner or operator shall install, maintain and operate a collection and control system that captures the gas generated within the landfill and that meets the following requirements:

a. An Active collection system shall:
   (1) Be 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;
   (2) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:
      (a) 5 years or more if active; or
      (b) 2 years or more if closed or at final grade.
   (3) Collect gas at a sufficient extraction rate;
   (4) Be designed to minimize off-site migration of subsurface gas.

b. A passive collection system shall:
   (1) Comply with the provisions specified in paragraphs a.(1), (2) and (4).

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(2) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under 40 CFR 258.40. Link to 40 CFR 258.40

c. Route all the collected gas to a control system that complies with the requirements in either paragraph (1) or (2).
   (1) An open flare designed and operated in accordance with 40 CFR 60.18, except as noted in 40 CFR 60.754(e) (See Subsection D.).
   (2) A treatment system that processes the collected gas for subsequent sale or use (See Subsection C.). All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of paragraph (1).

d. Operate the collection and control systems in accordance with the provisions of 40 CFR 60.753, 60.755 and 60.756. (See Specific Conditions **B7.**, **B.13. – B.17.** and **B.10. – B.12.**, respectively).

e. The collection and control system may be capped or removed provided that all of the following conditions are met:
   (1) The landfill shall be a closed landfill as defined in 40 CFR 60.751. A closure report shall be submitted to the Administrator as provided in 40 CFR 60.757(d) (see Specific Condition **B.25.**;
   (2) The collection and control systems shall have been in operation a minimum of 15 years; and
   (3) Following the procedures specified in 40 CFR 60.754(b) (see Specific Condition **B.9.**), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

[40 CFR 60.752(b)(2)(ii), (iii)(A), (iii)(C), (iv) & (v); and, 40 CFR 63.1955(b)]

B.3. Landfill Closure. When this landfill is closed, the owner or operator is no longer subject to the requirement to maintain a Title V Air operation permit under 40 CFR 70 or 71 for the landfill if the landfill is not otherwise subject to the requirements of 40 CFR 70 or 71 and if the owner or operator meets the conditions for control system removal specified in Specific Condition B.2.e. [40 CFR 60.752(d)]

B.4. No Longer Required to Comply with 40 CFR Part 63, Subpart AAAA. You are no longer required to comply with the requirements of this 40 CFR 63, Subpart AAAA when you are no longer required to apply controls as specified in Specific Condition B.2.e. [40 CFR 63.1950]

B.5. Specifications for Active Collection Systems. To comply with Specific Condition **B.2.**, the owner or operator shall:

a. Site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Administrator as provided in 40 CFR 60.752(b)(2)(i)(C) and (D):
   (1) The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.
   (2) The sufficient density of gas collection devices determined in paragraph a.(1) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.
   (3) The placement of gas collection devices determined in paragraph a.(1) shall control all gas producing areas, except as provided by paragraphs (3)(a) and (3)(b).
      (a) Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under 40 CFR 60.758(d) (see Specific Condition **B.30.**d.(2)). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Administrator upon request.

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(b) Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Administrator upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation:

$$Q_i = 2\ k\ L_o\ M_i\ (e^{-kt}\ i)\ (C_{NMOC})\ (3.6 \times 10^{-9})$$

where,

Q_i = NMOC emission rate from the ith section, megagrams per year
k = methane generation rate constant, $year^{-1}$
L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of the degradable solid waste in the ith section, megagram
t_i = age of the solid waste in the ith section, years
C_{NMOC} = concentration of nonmethane organic compounds, parts per million by volume
3.6×10^{-9} = conversion factor

(c) The values for k and C_{NMOC} determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_o and C_{NMOC} provided in 40 CFR 60.754(a)(1) or the alternative values from 40 CFR 60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph (a). Link to 40 CFR 60.754

b. Construct the gas collection devices using the following equipment or procedures:

(1) The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.

(2) Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

(3) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.

c. Convey the landfill gas to a control system in compliance with 40 CFR 60.752(b)(2)(iii) (see Specific Condition **B.2.**c.) through the collection header pipe(s). The gas mover equipment shall be sized to

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handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:
(1) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph (2) shall be used.
(2) For new collection systems, the maximum flow rate shall be in accordance with 40 CFR 60.755(a)(1) (see Specific Condition **B.13.**).

[40 CFR 60.759]

B.6. Landfill Gas Extraction Wells Addition/Removal. Landfill Gas Extraction Wells can be added to or removed from this emission unit with notification to the Department prior to usage. The notification shall include an updated spreadsheet of all landfill gas extraction wells (see Appendix M, Springhill Gas Wells) and a drawing showing well locations. [40 CFR 60.755(c)(4)]

Operational Standards

B.7. Operational Standards for Collection and Control Systems. The owner or operator shall:
a. Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:
(1) 5 years or more if active; or
(2) 2 years or more if closed or at final grade.
b. Operate the collection system with negative pressure at each wellhead except under the following conditions:
(1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the semi-annual reports as provided in 40 CFR 60.757(f) (see Specific Condition No. **B.27.**);
(2) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;
(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Administrator.
c. Operate each interior wellhead in the collection system with a landfill gas temperature less than 55°C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator 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.
(1) The nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i) (see Specific Condition No. B.3.).
(2) Unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i) (see Specific Condition No. B.4.), the oxygen shall be determined by an oxygen meter using Method 3A except that:
(a) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;
(b) A data recorder is not required;
(c) Only two calibration gases are required, a zero and span, and ambient air may be used as the span;
(d) A calibration error check is not required;
(e) The allowable sample bias, zero drift, and calibration drift are ±10 percent.
d. Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-

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specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

e. Operate the system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii) (see Specific Condition **B.2.**). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour.

f. Operate the control or treatment system at all times when the collected gas is routed to the system.

g. If monitoring demonstrates that the operational requirement in conditions b., c., or d. of this condition are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3) through (a)(5) or 60.755(c) (see Specific Condition **B.13.** or **B.15.**). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in this condition.

[40 CFR 60.753]

B.8. Operational Standards for Active Asbestos Waste Disposal. Because this facility receives asbestos-containing waste material from: asbestos mills; manufacturing, fabricating, demolition, renovation, and spraying operations; and operations that convert asbestos-containing waste material into non-asbestos (asbestos-free) material, the owner or operator shall meet the following requirements:

a. Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph c. or d. of this condition must be met.

b. Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph c.(1) of this condition must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(a) Be posted in such a manner and location that a person can easily read the legend; and

(b) Conform to the requirements of 51 cm × 36 cm (20 inch×14 inch) upright format signs specified in **29 CFR 1910.145(d)(4)** and this paragraph; and
[Note: 29 CFR 1910.145(d)(4) *Caution signs*. The standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of ANSI Z53.1-1967 or Table 1 of ANSI Z535.1-2006(R2011), incorporated by reference in 29 CFR 1910.6. Link to 29 CFR 1910.145]

(c) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block.
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

c. Rather than meet the no visible emission requirement of paragraph a. of this condition, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-

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containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:
(1) Be covered with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material, or
(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

d. Rather than meet the no visible emission requirement of paragraph a. of this condition, use an alternative emissions control method that has received prior written approval by the Administrator. As prescribed by 40 CFR 61.149(c)(2), to obtain approval for an alternative method, a written application must be submitted to the Administrator demonstrating that the following criteria are met:
(1) The alternative method will control asbestos emissions equivalent to currently required methods.
(2) The suitability of the alternative method for the intended application.
(3) The alternative method will not violate other regulations.
(4) The alternative method will not result in increased water pollution, land pollution, or occupational hazards.

e. For all asbestos-containing waste material received, the owner or operator shall:
(1) Maintain waste shipment records, using a form similar to that shown in Figure 4 of 40 CFR 61.149 [Link to 40 CFR 61.149], and include the following information:
(a) The name, address, and telephone number of the waste generator.
(b) The name, address, and telephone number of the transporter(s).
(c) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).
(d) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.
(e) The date of the receipt.
(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.
(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.
(4) Retain a copy of all records and reports required by this paragraph for at least five years.

f. Maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

g. Upon closure, comply with all the provisions of 40 CFR 61.151 (see Specific Condition **A.3.**).

h. Submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

i. Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this permit.

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j. Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least ten working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:
   (1) Scheduled starting and completion dates.
   (2) Reason for disturbing the waste.
   (3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.
   (4) Location of any temporary storage site and the final disposal site.

[29 CFR 1910.145(d)(4), 40 CFR 61.149(c)(2), and 40 CFR 61.154]

Monitoring of Operations

B.9. Removal of Collection System. The owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in 40 CFR 60.752(b)(2)(v) (see Specific Condition B.2.), using the following equation:

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC}$$

where,

M_{NMOC} = mass emission rate of NMOC, megagrams per year
Q_{LFG} = flow rate of landfill gas, cubic meters per minute
C_{NMOC} = NMOC concentration, parts per million by volume as hexane

a. The flow rate of landfill gas, QLFG, shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of 40 CFR 60 Appendix A. Link to 40 CFR 60 Appendices
b. The average NMOC concentration, CNMOC, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of 40 CFR 60 Appendix A. If using Method 18 of 40 CFR 60 Appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C of 40 CFR 60 Appendix A, by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.
c. The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.
d. When calculating emissions for PSD purposes, the owner or operator of each shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in 40 CFR 51.166 or 52.21 using AP-42 or other approved measurement procedures.

[40 CFR 60.754(b) & (c)]

B.10. Wellhead Monitoring. The owner or operator shall maintain and operate a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:

a. Measure the gauge pressure in the gas collection header on a monthly basis as provided in 40 CFR 60.755(a)(3) (see Specific Condition **B.13.**); and
b. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5) (see Specific Condition **B.13.**); and

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c. Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 60.755(a)(5) (see Specific Condition **B.13.**).

[40 CFR 60.752(b)(2)(iv) & 60.756(a)]

B.11. Alternative Parameters. Each owner or operator seeking to install a collection system that does not meet the specifications in 40 CFR 60.759 (see Specific Condition **B.5.**) or seeking to monitor alternative parameters to those required by 40 CFR 60.753 through 40 CFR 60.756 (see Specific Conditions **B.6., B.7., B.9., B.10., B.12., B.13., B.15. & B.16.**) shall provide information satisfactory to the Administrator as provided in 40 CFR 60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures. [40 CFR 60.756(e)]

B.12. Monitoring of Methane Surface Concentration. Each owner or operator seeking to demonstrate compliance with 40 CFR 60.755(c) (see Specific Condition **B.15.**), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in 40 CFR 60.755(d) (see Specific Condition **B.16.**). Any closed landfill that has no monitored exceedences 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. [40 CFR 60.756(f)]

Compliance Provisions

B.13. Gas Collection System. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the specified methods in paragraphs a. through f. shall be used to determine whether the gas collection system is in compliance with 40 CFR 60.752(b)(2)(ii) (see Specific Condition **B.2.**).

a. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(*1*) (see Specific Condition **B.2.**a.(1)), one of the following equations shall be used. The k and L_o kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP–42) or other site specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in 40 CFR 60.754(a)(4), the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(1) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR\,(e^{-kc} - e^{-kt})$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year
L_o = methane generation potential, cubic meters per megagram solid waste
R = average annual acceptance rate, megagrams per year
k = methane generation rate constant, $year^{-1}$
t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years
c = time since closure, years (for an active landfill c = O and $e^{-kc} = 1$)

(2) For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^{n} 2\,k\,L_o\,M_i\left(e^{-kt_i}\right)$$

where,

Q_M = maximum expected gas generation flow rate, cubic meters per year
k = methane generation rate constant, $year^{-1}$

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L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of solid waste in the i^{th}section, megagrams
t_i = age of the i^{th}section, years

(3) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in paragraphs a.(1) and a.(2). If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in paragraphs a.(1) or a.(2) or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

b. For the purposes of determining sufficient density of gas collectors for compliance with 40 CFR 60.752(b)(2)(ii)(A)(*2*) (see Specific Condition **B.2.**a.(2)), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

c. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(*3*) (see Specific Condition **B.2.**a.(3)), the owner or operator shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under 40 CFR 60.753(b) (see Specific Condition **B.7.**b.). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedences of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

d. Owners or operators are not required to expand the system as required in paragraph a.(3) during the first 180 days after gas collection system startup.

e. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in 40 CFR 60.753(c) (see Specific Condition B.7.c.). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedences of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

f. An owner or operator seeking to demonstrate compliance with 40 CFR 60.752(b)(2)(ii)(A)(4) (see Specific Condition **B.2.**a.(4)) through the use of a collection system not conforming to the specifications provided in 40 CFR 60.759 (see Specific Condition **B.5.**) shall provide information satisfactory to the Administrator as specified in 40 CFR 60.752(b)(2)(i)(C) demonstrating that off-site migration is being controlled.

[40 CFR 60.755(a)]

B.14. Well Installation. For purposes of compliance with 40 CFR 60.753(a) (see Specific Condition **B.7.**a.), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

a. 5 years or more if active; or
b. 2 years or more if closed or at final grade.

[40 CFR 60.755(b)]

B.15. Surface Methane Monitoring. The following procedures shall be used for compliance with the surface methane operational standard as provided in 40 CFR 60.753(d) (see Specific Condition **B.7.**).

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a. After installation of the collection system, the owner or operator shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of 40 CFR 60.755 (see Specific Condition **B.16.**).
b. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.
c. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of 40 CFR 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Link to 40 CFR 60 Appendices
d. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in paragraphs (c)(4) (i) through (v) of 40 CFR 60.755 (see Specific Condition **B.16.**) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 60.753(d) (see Specific Condition **B.7.**).
   (1) The location of each monitored exceedance shall be marked and the location recorded.
   (2) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.
   (3) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of 40 CFR 60.755 (see Specific Condition **B.16.**) shall be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) has been taken.
   (4) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in paragraph (c)(4)(ii) or (iii) of 40 CFR 60.755 (see Specific Condition **B.16.**) shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in paragraph (c)(4)(iii) or (v) shall be taken.
   (5) For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.
e. The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

[40 CFR 60.755(c)]

B.16. Surface Methane Monitoring Instrumentation. Each owner or operator seeking to comply with the provisions in paragraph (c) of 40 CFR 60.755 (see Specific Condition **B.16.**) shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:
a. The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of 40 CFR 60, except that "methane" shall replace all references to VOC.
b. The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.
c. To meet the performance evaluation requirements in section 3.1.3 of Method 21 of appendix A of 40 CFR 60, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of 40 CFR 60 shall be used. Link to 40 CFR 60 Appendices
d. The calibration procedures provided in section 4.2 of Method 21 of appendix A of 40 CFR 60 shall be followed immediately before commencing a surface monitoring survey.

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[40 CFR 60.755(d)].

B.17. Startup – Shutdown – Malfunction. The provisions of this permit apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour of free venting for treatment or control devices. In addition, this emissions unit shall comply with the start-up, shutdown, or malfunction requirements contained in 40 CFR 63, Subpart A (see Specific Conditions **B.19.**, **B.20.** and **B.37.**). [Rule 62-204.800(9)(c)3.b., F.A.C.; 40 CFR 60.752(b)(2)(iv) & 60.755(e); and, 40 CFR 63.1955(c)]

B.18. Requirements of 40 CFR Part 63, Subpart AAAA. To comply with 40 CFR 63, Subpart AAAA, you must comply with 40 CFR part 60, Subpart WWW.

a. Because you have a collection and control system installed as required by 40 CFR 60.752(b)(2) of Subpart WWW, you must comply with the requirements in 40 CFR 63.1960 through 63.1985 and with the general provisions of 40 CFR 63 specified in table 1 of this subpart (see Specific Conditions **B.20., B.21., B.22., B.23., B.26., B.27., B.30., B.33., B.34. & B.37.**).

b. For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, you must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR 60, Subpart WWW, these alternatives can be used to comply with this 40 CFR 63, Subpart AAAA, except that all affected sources must comply with the SSM requirements in Subpart A of 40 CFR 63 as specified in Table 1 of this subpart (see Specific Condition **B.37.**) and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b) (see Specific Conditions **B.27. & B.33.**), including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average.

[40 CFR 63.1955(a), (b) & (c)]

B.19. Operation and Maintenance Requirements. At all times, including periods of startup, shutdown, and malfunction, 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. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section (see Specific Condition **B.20.**)), review of operation and maintenance records, and inspection of the source.

a. Malfunctions must be corrected as soon as practicable after their occurrence. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

b. Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

[40 CFR 63.1955(c) and 40 CFR 63.6(e)(1)]

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B.20. Startup, Shutdown and Malfunction Plan.

a. The owner or operator must develop and retain a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard. The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard. The purpose of the startup, shutdown, and malfunction plan is to:
   (1) Ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by paragraph a.;
   (2) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
   (3) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

b. When actions taken by the owner or operator during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the owner or operator must keep records of these events as specified in 40 CFR 63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in 40 CFR 63.10(d)(5). Link to 40 CFR 63.10

c. If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with 40 CFR 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator). Link to 40 CFR 63.10

d. The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph g., the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of 40 CFR 63, Subpart A, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a

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copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator. Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.

e. To satisfy the requirements of this condition to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

f. Based on the results of a determination made under Specific Condition **B.20.**, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:
   (1) Does not address a startup, shutdown, or malfunction event that has occurred;
   (2) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by Specific Condition **B.20.**;
   (3) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or
   (4) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in 40 CFR 63.2 - Definitions.

g. The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this permit or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by 40 CFR 63.10(d)(5) (see Specific Condition **B.27.**). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

h. Any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established above shall not be deemed to constitute revisions to this Title V air operation permit and the elements of the startup, shutdown, and malfunction plan shall not be considered an applicable requirement as defined in 40 CFR 70.2. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

[40 CFR 63.6(e)(3), 40 CFR 63.10(d)(5), 40 CFR 63.1955(c), and 40 CFR 63.1960]

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B.21. Determining Compliance with 40 CFR 63, Subpart AAAA. Compliance is determined in the same way it is determined for 40 CFR 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d) of Subpart WWW (see Specific Condition **D.8.**), are used to demonstrate compliance with the operating conditions for control systems. If a deviation occurs, you have failed to meet the control device operating conditions described in this subpart and have deviated from the requirements of this subpart. Finally, you must develop a written SSM plan according to the provisions in 40 CFR 63.6(e)(3) (see Specific Condition **B.20.**). A copy of the SSM plan must be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of this subpart. [40 CFR 63.1960]

B.22. Deviation for 40 CFR Part 63, Subpart AAAA. A deviation is defined in 40 CFR 63.1990. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs a. and b.

a. A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of subpart WWW are exceeded.
b. A deviation occurs when a SSM plan is not developed or maintained on site.

[40 CFR 63.1965]

B.23. Compliance Averages for 40 CFR Part 63, Subpart AAAA. 3-hour block averages are calculated in the same way as they are calculated in 40 CFR 60, Subpart WWW, except that the data collected during the events listed in paragraphs a. – d. are not to be included in any average computed under this subpart:

a. Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments.
b. Startups.
c. Shutdowns.
d. Malfunctions.

[40 CFR 63.1975]

Record Keeping and Reporting Requirements

B.24. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Facility Closure Report	Within 30 of garbage cessation	**B.25.**
Equipment Removal Report	30 Days Prior to removal	**B.26.**
Semi-annual Reports	Every 6 Months	**B.27.**
Asbestos Disturbance Notice	45 Days Prior to Disturbance	**B.28.**

[Rule 62-213.440(1)(b), F.A.C.]

B.25. Facility Closure Report. The owner or operator shall submit a closure report to the Administrator within 30 days of waste acceptance cessation. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill. [40 CFR 60.757(d)]

B.26. Equipment Removal Report. The owner or operator shall submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

a. The equipment removal report shall contain all of the following items:
   (1) A copy of the closure report submitted in accordance with 40 CFR 60.757(d) (see Specific Condition **B.25.**);
   (2) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and

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(3) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

b. The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met (see Specific Conditions **B.2. & B.9.**).

[40 CFR 60.757(e) and 40 CFR 63.1980(a)]

B.27. Semi-annual Reports. The owner or operator must submit compliance reports every 6 months as specified in paragraphs a. through f., including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average (see Specific Conditions **B.22.** and **B.23.**).

a. Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d) (see Specific Condition **B.10. & D.8.**).
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 (see Specific Condition **D.8.**).
c. Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.
d. All periods when the collection system was not operating in excess of 5 days.
e. The location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) (see Specific Condition **B.7.**d.) and the concentration recorded at each location for which an exceedance was recorded in the previous month.
f. The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of 40 CFR 60.755 (see Specific Conditions **B.13. – B.16.**).

[40 CFR 60.757(f), 40 CFR 63.1955(b) & (c) and 40 CFR 63.1980(a)]

B.28. Asbestos Disturbance Notification. The owner or operator must notify the compliance office in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. (See Specific Condition **B.8.**j.) If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the compliance office at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

a. Scheduled starting and completion dates.
b. Reason for disturbing the waste.
c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.
d. Location of any temporary storage site and the final disposal site

[40 CFR 61.154(j)]

B.29. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

B.30. Subpart WWW Landfill Records. The owner or operator shall:

a. Keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which triggered 40 CFR 60.752(b) (see Specific Condition **B.2.**), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.
b. Keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs b.(1) and b.(2) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.

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(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(ii) (see Specific Condition **B.2.**):
   (a) The maximum expected gas generation flow rate as calculated in 40 CFR 60.755(a)(1) (see Specific Condition **B.13.**). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.
   (b) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.759(a)(1) (see Specific Condition **B.5.**).
(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii)(A) through use of an open flare (see Specific Conditions **B.2.** and **D.8.**), the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

c. Keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.756 (see Specific Condition **B.10. – B.12.**) as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.
   (1) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.756 (see Specific Condition **B.10. – B.12.**).
   (2) Each owner or operator seeking to comply with the provisions of this subpart by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 60.756(c) (see Specific Condition **D.8.**), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.
d. Keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.
   (1) Keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.755(b) (see Specific Condition **B.14.**).
   (2) Keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in 40 CFR 60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in 40 CFR 60.759(a)(3)(ii) (see Specific Condition **B.5.**).
e. Keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedences of the operational standards in 40 CFR 60.753 (see Specific Condition **B.7.**), the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
f. A copy of the startup, shutdown and maintenance (SSM) plan must be maintained on site. Failure to maintain a copy of the SSM plan is a deviation from the requirements of this permit.

[40 CFR 60.758(a), (b)(1) & (4), (c)(2) & (4), (d)(1) & (2) and (e); and, 40 CFR 63.1955(c) & 63.1960]

B.31. Asbestos Records and Reports. Permittee shall maintain records and reports in accordance with 40 CFR 61.154(e) (see Specific Condition **B.8.**) and for a period of at least five years. [40 CFR 61.154(e)]

B.32. Asbestos Location Records. Permittee shall maintain, until closure, location records of the asbestos containing waste subject to 40 CFR 61.154 in accordance with 40 CFR 61.154(f) (see Specific Condition **B.8.**). [40 CFR 61.154(f)]

B.33. 40 CFR Part 63, Subpart AAAA Records. The owner or operator shall:
a. Keep records and reports as specified in 40 CFR 60, Subpart WWW, with one exception: You must submit the annual report described in 40 CFR 60.757(f) every 6 months (see Specific Condition **B.27.**).

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b. Keep records and reports as specified in the general provisions of 40 CFR 60 and 40 CFR 63 as shown in Table 1 of 40 CFR 63. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.
c. Keep a record of calculations showing that the percent moisture by weight expected in the waste mass to which liquid is added is less than 40%, if you add any liquids other than leachate in a controlled fashion to the waste mass. The calculation must consider the waste mass, moisture content of the incoming waste, mass of water added to the waste including leachate recirculation and other liquids addition and precipitation, and the mass of water removed through leachate or other water losses. Moisture level sampling or mass balances calculations can be used. You must document the calculations and the basis of any assumptions. Keep the record of the calculations until you cease liquids addition.

[40 CFR 63.1980(a), (b) & (g)]

Other Requirements

B.34. Implementation and Enforcement of 40 CFR Part 63, Subpart AAAA.
a. This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or tribal agency. Because the EPA Administrator has delegated authority to the State, the state as well as the U.S. EPA has the authority to implement and enforce this subpart.
b. In delegating implementation and enforcement authority of this subpart to the State under Subpart E of 40 CFR 63, the following authorities are retained by the EPA Administrator and are not transferred to the State: Approval of alternatives to the standards in 40 CFR 63.1955. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

[40 CFR 63.1985]

B.35. 40 CFR 60, Subpart A – General Provisions. In addition to the above requirements, the owner or operator must also comply with the requirements contained in 40 CFR 60, Subpart A - General Provisions. [Rule 62-213.440, F.A.C. and 40 CFR 60, Subpart A] Link to 40 CFR 60, Subpart A

B.36. 40 CFR 61, Subpart A – General Provisions. In addition to the above requirements, the owner or operator must also comply with the requirements contained in 40 CFR 61, Subpart A - General Provisions. [Rule 62-213.440, F.A.C. and 40 CFR 61, Subpart A] Link to 40 CFR 61, Subpart A

B.37. 40 CFR 63, Subpart A – General Provisions. In addition to the above requirements, the owner or operator must also comply with the following requirements contained in 40 CFR 63, Subpart A - General Provisions. Link to 40 CFR 63, Subpart A

Citation	Description	Explanation
63.1(a)	Applicability: general applicability of NESHAP in this part	Affected sources are already subject to the provisions of paragraphs (a)(10)-(12) through the same provisions under 40 CFR, part 60 subpart A.
63.1(b)	Applicability determination for stationary sources	
63.1(e)	Title V permitting	
63.2	Definitions	
63.4	Prohibited activities and circumvention	Affected sources are already subject to the provisions of paragraph (b) through the same provisions under 40 CFR, part 60 subpart A.
63.5(b)	Requirements for existing, newly constructed, and reconstructed sources	

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Citation	Description	Explanation
63.6(e)	Operation and maintenance requirements, startup, shutdown and malfunction plan provisions	
63.6(f)	Compliance with nonopacity emission standards	Affected sources are already subject to the provisions of paragraphs (f)(1) and (2)(i) through the same provisions under 40 CFR, part 60 subpart A.
63.10(b)(2)(i) -(b)(2)(v)	General recordkeeping requirements	
63.10(d)(5)	If actions taken during a startup, shutdown and malfunction plan are consistent with the procedures in the startup, shutdown and malfunction plan, this information shall be included in a semi-annual startup, shutdown and malfunction plan report. Any time an action taken during a startup, shutdown and malfunction plan is not consistent with the startup, shutdown and malfunction plan, the source shall report actions taken within 2 working days after commencing such actions, followed by a letter 7 days after the event	
63.12(a)	These provisions do not preclude the State from adopting and enforcing any standard, limitation, etc., requiring permits, or requiring emissions reductions in excess of those specified	
63.15	Availability of information and confidentiality	

[40 CFR 63.1955(b), 63.1980 and Table 1 of Subpart AAAA]

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The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
005	Landfill Gas Treatment/Electric Generating Plant

This emission unit is an energy recovery plant that uses the landfill gas to generate approximately 4.9 megawatts of electrical power (based on 6 engines at 810 KW per engine). The plant operates six Caterpillar G3516 reciprocating engine/generator sets (9.1 MMBtu/hr each) and a single fuel gas compressor. Each engine is rated at 1,148 brake horsepower hour at 100% full load. Electrical power generated by these engines is delivered to the utility grid. A flare (3,000 cfm) is utilized for managing excess landfill gas and as a back-up for the plant during maintenance shutdowns.

Landfill gas from the closed North landfill and the active South Landfill is collected and treated prior to combustion in the reciprocating engines. The treatment process utilizes filtration (with a maximum size of ten microns), dewatering (through the use of a mesh pad scrubber, post-compression cooling, and gas reheating downstream of the filter), and a single compressor (which compresses the gas to approximately six pounds per square inch (gauge)) to prepare the landfill gas for combustion. Based on several EPA determinations related to the treatment of landfill gases prior to its combustion, and more specifically based on EPA's letter dated May 16, 2005 addressed to Michael Cooke, Director, Division of Air Resource Management, the equipment used to filter, dewater and compress landfill gas at the Springhill Regional Landfill qualifies as a treatment process under provisions of Subpart WWW. Therefore, the treated gas leaving the system is no longer subject to the control requirements in 40 CFR 60.752(b)(2)(iii)(A) or (B); however, emissions from any atmospheric vents in the treatment system must be sent to a control system (flare – EU 006) that complies with the removal efficiency standards in 40 CFR 60.752(b)(2)(iii). In the event the gas treatment system or electric generating plant are out of service or if there is more landfill gas available than the engines can combust, the landfill gas is re-directed to bypass the treatment system and the untreated gas is subject to regulation pursuant to Subpart WWW for the control of NMOC emissions (see Subsection D. for operation of the flare).

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The following table provides important details for the engines collectively regulated as EU 005:

Engine Identification	Engine Brake HP	Date of Construction	Model Year	Displacement liters/cylinder (l/c)	Engine Manufacturer	Model No.
Non-Emergency SI Generator	1,148 (810 kW)	11/2005	2005	4.21 (67.4 total)	Caterpillar	3516

{Permitting Note: The gas treatment system is regulated pursuant to 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills, adopted and incorporated by reference in Rule 62-204.800(8), F.A.C. and 40 CFR 63 Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, adopted and incorporated by reference in Rule 62-204.800(11), F.A.C. The engines are regulated pursuant to 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) adopted in Rule 62.204.800(11)(b), F.A.C. For purposes of regulation under the RICE rules, these engines are considered existing, non-emergency, spark ignition engines firing landfill gas. The gas treatment system and electrical generating plant are also subject to permit No. 0630045-005-AC. Each engine has a stack with the following characteristics: stack height = 29 feet; exit diameter = 0.83 feet; exit temperature = 800°F; actual volumetric flow rate = 6,035 acfm; exit velocity = 185.9 feet/sec.}

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Essential Potential to Emit (PTE) Parameters

C.1. Design Capacity. The operational design capacity for each engine/generator set is 9.1 MMBtu/hr. [Permit No. 0630045-005-AC, Unit Description]

C.2. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

C.3. Methods of Operation.

a. *Fuel*. The engines in this emissions unit are authorized to burn treated landfill gas.

b. *Authorized Engine Rebuild*. At the time that any of the six CAT 3516C engine/generator sets that comprise emissions unit EU 005 needs to be rebuilt, the owner may rebuild the engine on or offsite, and document that the engine does or does not meet the definition of "reconstruction". Note: *Reconstruction* is defined as the replacement of components of an affected or a previously non-affected source to such an extent that the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source. (See Specific Condition **C.17.** for testing requirements.)

c. *Like-Kind Engine Replacement with "Existing" Engine*. At the time that any of the six CAT 3516C engine/generator sets that comprise emissions unit EU 005 needs to be replaced, the owner or operator may permanently replace the unit with an engine that shall be the identical make, model, model year or older, and maximum heat input. All replacement engines shall be owned by Waste Management. All replacement engines shall meet the applicable requirements of 40 CFR 63 Subpart ZZZZ, and document that the engine does or does not meet the definition of reconstruction". (See Specific Condition **C.17.** for testing requirements.)

d. *Like-Kind Engine Replacement with "New" Engine*. At the time that any of the six CAT 3516C engine/generator sets that comprise emissions unit EU 005 needs to be replaced, the owner or operator may permanently replace the unit with a replacement engine that is subject to 40 CFR 63, Subpart ZZZZ and 40 CFR 60, Subpart JJJJ. The replacement engine shall be the same model (or equivalent), shall have the same maximum heat input, and shall comply with all applicable requirements under 40 CFR 60, Subpart JJJJ, as specified in Appendix NSPS JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. (See also Specific Condition **C.17.**)

[Rules 62-4.160(2) and 62-213.440(1), F.A.C. and Permit No. 0630045-005-AC, Condition A.1.]

C.4. Hours of Operation. This emissions unit (each engine) is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.160(2) & 62-210.200(PTE), F.A.C.; and, Permit No. 0630045-005-AC, Condition A.2.]

C.5. Work or Management Practice Standards.

a. *Oil*. Change oil and filter every 1,440 hours of operation or annually, whichever comes first. [40 CFR 63.6603(a) & Table 2d.13.a.]

b. *Spark Plugs*. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first and replace as necessary. [40 CFR 63.6603(a) & Table 2d.13.b.]

c. *Hoses and Belts*. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6603(a) & Table 2d.13.c.]

d. *Operation and Maintenance*. Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions or develop and follow your own maintenance plan which must provide, to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution, control practice for minimizing emissions. [40 CFR 63.6625(e), 63.6640(a) & Table 6.9.a.]

e. *Engine Startup*. During periods of startup the owner or operator must 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. [40 CFR 63.6625(h)]

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C.6. Gas Treatment System. The landfill gas shall be cleaned/treated prior to combustion in the engines. The collected gas is dewatered, compressed to approximately six pounds per square inch (gauge), and passed through a filter with a maximum size of ten microns. Dewatering is accomplished through a number of mechanisms, including the use of a mesh pad scrubber, post-compression cooling, and gas reheating downstream of the filter. The treated gas leaving the system is not subject to the control requirements in 40 CFR 60.752(b)(2)(iii)(A) or (B) (See Appendix GTSD, Gas Treatment System Determination). [40 CFR 60.752(b)(2)(iii)(C) and EPA Letter to Michael Cooke dated May 16, 2005]

C.7. Untreated Gas. In the event the gas treatment system or electric generating plant are out of service, or if there is more landfill gas available than the engines can combust, or if there are emissions of landfill gas from any atmospheric vents in the treatment system, the untreated gas must be sent to the flare to comply with the NMOC removal efficiency standards in 40 CFR 60.752(b)(2)(iii)(A) (see Subsection D). [40 CFR 60.752(b)(2)(iii)(A) & (C) and EPA Letter to Michael Cooke dated May 16, 2005]

Compliance

C.8. Continuous Compliance. Each unit shall be in compliance with the emission limitations and operating standards in this section at all times. [40 CFR 63.6605(a)]

C.9. Operation and Maintenance of Equipment. At all times 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. Determination of whether such operation and maintenance procedures are being used will be based on information available to the compliance authority which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

Emission Limitations and Standards

Unless otherwise specified, the averaging times for Specific Condition **C.7.** is based on the specified averaging time of the applicable test method.

C.10. Carbon Monoxide. The maximum allowable emissions of carbon monoxide (CO) for each engine are limited to 6.34 pounds per hour (27.77 tons per year). [Permit No. 0630045-005-AC, Condition A.3.]

{Permitting Notes: This emissions unit is subject to the General Visible Emissions Standard in Facility-Wide Condition No. FW4.}

Excess Emissions

Rule 62-210.700 (Excess Emissions), F.A.C. cannot vary any requirement of an NSPS, NESHAP or Acid Rain program provision.

C.11. Excess Emissions Allowed. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C]

C.12. Excess Emissions Prohibited. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C]

C.13. Startup – Shutdown – Malfunction. The provisions of this permit apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall

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not exceed 5 days for collection systems and shall not exceed 1 hour of free venting for treatment or control devices. [40 CFR 60.755(e)]

Test Methods and Procedures

{Permitting Note: Unless otherwise specified, averaging time(s) are based on the specified averaging time of the applicable test method.}

C.14. Test Methods. When required, tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Note: The method shall be based on a continuous sampling train.}

The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rule 62-297.401, F.A.C. and Permit No. 0630045-005-AC, Condition A.4.]

C.15. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

C.16. Compliance Tests Prior To Renewal. Each engine shall be tested to demonstrate compliance with the carbon monoxide limit shown in Specific Condition **C.10.** prior to obtaining a renewed operation permit. [Rules 62-210.300(2)(a) & 62-297.310(7)(a)3., F.A.C.]

C.17. Testing of Replacement Engines.

a. *Existing and New Engines*. Any reconstructed or replacement engine(s) shall be performance tested for CO using EPA Method 10. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing.

b. *New Replacement Engines Subject to NSPS JJJJ*. In addition to all other applicable requirements contained in Appendix NSPS JJJJ, any replacement engine subject to NSPS JJJJ will comply with performance test requirements under NSPS JJJJ, which state: the initial tests shall be conducted within 60 days after the unit achieves permitted capacity, but not later than 180 days after initial operation. Tests shall be conducted to demonstrate compliance with the applicable emissions limits for nitrogen oxides (NO_X), carbon monoxide (CO) and volatile organic compounds (VOC). The tests will be conducted within 10 percent of 100 percent peak (or highest achievable) load according to the requirements of 40 CFR 60.8. The owner or operator may request for approval of an extension of time up to an additional 30 days to conduct the required testing. The request for approval of an extension of time will be submitted in writing to the FDEP Northwest District office. The department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing.

[Rule 62-213.440(1), F.A.C. and Permit No. 0630045-005-AC, Condition A.4.a.]

Recordkeeping and Reporting Requirements

C.18. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Non-Compliance Reports	Semi-annually	**C.20.**
Monitoring Reports	Semi-annually	**A.21.**

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[Rule 62-213.440(1)(b), F.A.C.]

C.19. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

C.20. Non-compliance Reports. You must report each instance in which you did not meet each operating limitation in Specific Condition **C.5.** These instances are deviations from the emission and operating limitations in this subpart. You must also report each instance in which you did not meet the requirements in Specific Condition **C.25.** These deviations must be reported according to the requirements in Specific Condition **C.21.** [40 CFR 63.6640(b)]

C.21. Semi-Annual Monitoring Reports. You must report all deviations as defined in this subpart in the semiannual monitoring report required by Condition RR4. of Appendix RR, Facility-wide Reporting Requirements. [40 CFR 63.6650(f)]

C.22. Monthly Operation Records. Permittee shall record and maintain for inspection, monthly records showing the total hours of operation and quantity of landfill gas combusted in all engines and for the flare. The records shall be maintained on site for five years and made available as necessary for Department inspection. [Permit 0630045-005-AC, Condition A.5.]

C.23. Notification, Performance and Compliance Records. The owner or operator must keep:

a. A copy of each notification and report that the owner or operator submitted to comply with this section, including all documentation supporting any Initial Notification or Notification of Compliance Status that the owner or operator submitted.
b. Records of the occurrence and duration of each malfunction of operation.
c. Records of actions taken during periods of malfunction to minimize emissions in accordance with Specific Condition **C.9.**, including corrective actions to restore malfunctioning process and monitoring equipment to its normal or usual manner of operation.
d. Records of the actions required in Specific Condition **C.5.d.** to show continuous compliance with each emission limitation or operating requirement.
e. Records of the Work or Management Practice Standards specified in Specific Condition **C.5.**
f. Records of the maintenance conducted in order to demonstrate that the RICE was operated and maintained according to your own maintenance plan.

[40 CFR 63.6655(a), (d), (e)(3)]

C.24. Record Retention.

a. The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
b. The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

General Provisions

C.25. 40 CFR 63 Subpart A - General Provisions. The owner or operator shall comply with the following applicable requirements of 40 CFR 63 Subpart A - General Provisions, which have been adopted by reference in Rule 62-204.800(11)(d)1., F.A.C., except that the Secretary is not the Administrator for purposes of 40 CFR 63.5(e), 40 CFR 63.5(f), 40 CFR 63.6(g), 40 CFR 63.6(h)(9), 40 CFR 63.6(j), 40 CFR 63.13, and 40 CFR 63.14. Link to 40 CFR 63, Subpart A - General Provisions

General Provisions Citation	Subject of Citation
§63.1	General applicability of the General Provisions
§63.2	Definitions (additional terms defined in 43 CFR 63.6675)
§63.3	Units and abbreviations

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General Provisions Citation	Subject of Citation
§63.4	Prohibited activities and circumvention
§63.5	Construction and reconstruction
§63.6(a)	Applicability
§63.9(a)	Applicability and State delegation of notification requirements
§63.9(b)(1)-(5)	Initial notifications (except that §63.9(b)(3) is reserved)
§63.9(i)	Adjustment of submittal deadlines
§63.9(j)	Change in previous information
§63.10(a)	Administrative provisions for recordkeeping/reporting
§63.10(b)(1)	Record retention
§63.10(b)(2)(vi)–(xi)	Records
§63.10(b)(2)(xii)	Record when under waiver
§63.10(b)(2)(xiv)	Records of supporting documentation
§63.10(b)(3)	Records of applicability determination
§63.10(d)(1)	General reporting requirements
§63.10(f)	Waiver for recordkeeping/reporting
§63.12	State authority and delegations
§63.13	Addresses
§63.14	Incorporation by reference
§63.15	Availability of information

[40 CFR 63.6665 & Table 8 to Subpart ZZZZ of Part 63]

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The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
006	3000 SCFM Non-assisted Utility Flare

A 3,000 scfm open, non-assisted flare and blower station is used as the landfill gas (LFG) control device for the North and South LFG collection systems in accordance with Subpart WWW 40 CFR 60.752(b)(2)(iii)(A) as a backup for periods when the gas treatment / electrical generating plant is not in service. The flare includes one landfill gas blower with a 25 HP motor. Inlet pressure to the flare is approximately 5-10" water. The flare stack height is 35 feet with an exit diameter of 12 inches. The outlet gas temperature is between ~~1,200~~600 and ~~1,400~~1,000°F and it operates at a LFG flow rate between 300 and 3,000 scfm with a destruction efficiency of 98% total hydrocarbons at a methane content of 50%.

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{Permitting Note: This emissions unit is regulated under 40 CFR 60, Subpart A, the General Control Device and Work Practice Requirements adopted in Rule 62.204.800(8)(b), F.A.C. and 40 CFR 60, Subpart WWW, "Standards of Performance for Municipal Solid Waste Landfills", adopted and incorporated by reference in Rule 62-204.800(8)(b), F.A.C.}

Essential Potential to Emit (PTE) Parameters

D.1. Hours of Operation. These emissions units may operate continuously (8,760 hours/year). [Rule 62-210.200(PTE), F.A.C.]

D.2. Permitted Capacity. The maximum landfill gas flowrate to the flare shall not exceed 3,000 standard cubic feet per minute of landfill gas, averaged hourly. [Rule 62-210.200(PTE), F.A.C. and Permit No. 0630045-005-AC]

General Control Device and Work Practice Requirements

D.3. Operational Standards. Operate the control or treatment system at all times when the collected gas is routed to the system. [40 CFR 60.753(f)]

D.4. General Control Device and Work Practice Requirements For Flares.

a. Flares shall be designed for and operated with no visible emissions as determined by the methods specified in Specific Condition **D.7.** (40 CFR 60.18(f)), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

b. Flares shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f).

c. An owner/operator has the choice of adhering to either the heat content specifications in paragraph c.(2) (40 CFR 60.18(c)(3)(ii)) and the maximum tip velocity specifications in paragraph d. (40 CFR 60.18(c)(4)), or adhering to the requirements in paragraphs c.(1)(a) and (b) (40 CFR 60.18(c)(3)(i)).

(1) Flare Specifications.

(a) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by the following equation:

$$V_{max}=(X_{H2}-K_1)* K_2$$

Where:

V_{max} = Maximum permitted velocity, m/sec.

K_1 = Constant, 6.0 volume-percent hydrogen.

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K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.
X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946–77. (Incorporated by reference as specified in 40 CFR 60.17).

(b) The actual exit velocity of a flare shall be determined by the method specified in paragraph d. and Specific Condition **D.7.** (40 CFR 60.18(f)(4)).

(2) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in Specific Condition **D.7.** (40 CFR 60.18(f)(3)).

d. Tip Velocity Specifications.

(1) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in Specific Condition **D.7.** (40 CFR 60.18 (f)(4)), less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs d.(2) and d.(3) (40 CFR 60.18(c)(4) (ii) and (iii)).

(2) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

3) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than the velocity, V_{max}, as determined by the method specified in 40 CFR 60.18 (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

e. Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

[40 CFR 60.18(c)]

D.5. Flare Monitoring Requirements. Owners or operators of flares used to comply with the provisions of 40 CFR 60 shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts of 40 CFR 60 will provide provisions stating how owners or operators of flares shall monitor these control devices (see Specific Condition **D.8.**). [40 CFR 60.18(d)]

D.6. Requirement to Operate. Flares used to comply with provisions of 40 CFR 60 shall be operated at all times when emissions may be vented to them. [40 CFR 60.18(e)]

D.7. Flare Compliance Requirements.

a. Method 22 of appendix A to 40 CFR 60 shall be used to determine the compliance of flares with the visible emission provisions of Specific Condition **D.4.** (40 CFR 60.18(c)(1)). The observation period is 2 hours (30-minutes minimum for annual tests required in Specific Condition **D.11.**) and shall be used according to Method 22.

b. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

c. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

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K = Constant, 1.740×10^{-7} $\left(\frac{1}{ppm}\right)$ $\left(\frac{g\ mole}{scm}\right)$ $\left(\frac{MJ}{kcal}\right)$

where the standard temperature for $\left(\frac{g\ mole}{scm}\right)$ is 20°C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in 40 CFR 60.17); and

H_i = Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in 40 CFR 60.17) if published values are not available or cannot be calculated.

d. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

e. The maximum permitted velocity, V_{max}, for flares complying with Specific Condition **B.4.**d.(3) (40 CFR 60.18 (c)(4)(iii)) shall be determined by the following equation.

$$\text{Log}_{10}(V_{max})=(H_T+28.8)/31.7$$

Where:

V_{max} = Maximum permitted velocity, M/sec
28.8 = Constant
31.7 = Constant
H_T = The net heating value as determined in 40 CFR 60.18 (f)(3).

[40 CFR 60.18(f)]

Monitoring of Operations

D.8. Monitoring of Operations. The owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

a. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.

b. A device that records flow to or bypass of the flare. The owner or operator shall either:
   (1) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or
   (2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

[40 CFR 60.756(c)]

Test Methods and Procedures

D.9. Test Methods. When required, tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
3C	Determination of Carbon Dioxide, Methane, Nitrogen, and Oxygen from Stationary Sources
22	Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares

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The above methods are described in 40 CFR 60, Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rule 62-297.401, F.A.C.]

D.10. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

D.11. Annual Compliance Tests Required. During each federal fiscal year (October 1st to September 30th), a visible emissions test shall be conducted on the back-up flare using EPA Method 22 (30-minute minimum testing period) to demonstrate compliance with the emissions standards for opacity. The use of EPA Method 22 in lieu of EPA Method 9 shall constitute compliance with the requirement of Rule 62-296.320(4)(b)4.a., F.A.C., to use EPA Method 9 for the annual visible emissions compliance test. Due to the variable flow nature of landfill gas, the back-up flare is not limited to operating at 110% of the maximum rate tested during the previous annual emissions tests. [Rule 62-297.310(7), F.A.C.]

D.12. Test Methods and Procedures Following Changes to Flare. A visible emissions test on the back-up flare using EPA Method 22 (two-hour minimum testing period), a heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations, shall be conducted on the flare following any changes to location, replacement of system components, or substantial maintenance. Due to the variable flow nature of landfill gas, the back-up flare is not limited to operating at 110% of the maximum rate tested during the previous annual emissions tests. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing. [Rule 62-213.440(1) & 62-297.310(7)(b), F.A.C.; and, 40 CFR 60.18(f)(4)]

D.13. Test Methods and Procedures for Methane Concentration. For the performance test required in 40 CFR 60.752(b)(2)(iii)(A), the net heating value of the combusted landfill gas as determined in Specific Condition **D.7.**c. (40 CFR 60.18(f)(3)) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under Specific Condition **D.7.**d. (40 CFR 60.18(f)(4)). [40 CFR 60.754(e)]

Recordkeeping and Reporting Requirements

D.14. Reporting Schedule. The following reports and notifications shall be submitted to the Compliance Authority:

Report	Reporting Deadline	Related Condition(s)
Equipment Removal	30 days prior to removal or cessation	**D.16.**
Semi-annual Reports	30 days after the end of the semi-annual period	**D.17.**
Compliance Test Reports	45 Days after test	**D.18.**

[Rule 62-213.440(1)(b), F.A.C.]

D.15. Other Reporting Requirements. See Appendix RR, Facility-Wide Reporting Requirements, for additional reporting requirements. [Rule 62-213.440(1)(b), F.A.C.]

D.16. Equipment Removal Reporting Requirement. The owner or operator shall submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

a. The equipment removal report shall contain all of the following items:

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(1) A copy of the closure report submitted in accordance with 40 CFR 60.757(d) (see Specific Condition **B.25.**);
(2) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and
(3) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

b. The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v) have been met (see Specific Conditions **B.2. & B.9.**).

[40 CFR 60.757(e)]

D.17. Semi-annual Reports. The owner or operator shall submit to the Administrator semi-annual reports of the recorded information in paragraphs a. through f., including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average (see Specific Conditions **B.22.** and **B.23.**). For flares, reportable exceedences are defined under 40 CFR 60.758(c) (see Specific Condition **D.19.**).

a. Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(c) (see Specific Condition **D.8.**).
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 (see Specific Condition **D.8.**).
c. Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.
d. All periods when the collection system was not operating in excess of 5 days.
e. The location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) (see Specific Condition **B.7.**d.) and the concentration recorded at each location for which an exceedance was recorded in the previous month.
f. The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of 40 CFR 60.755 (see Specific Conditions **B.13. – B.16.**).

[40 CFR 60.757(f), 40 CFR 63.1955(b) & (c) and 40 CFR 63.1980(a)]

D.18. Compliance Test Reports. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C. The Department can require special compliance tests in accordance with Rule 62-297.310(7)(b), F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing. Test reports shall comply with Rule 62-297.310(8), F.A.C. (See Appendix TR, Testing Requirements.) Additionally, the compliance test report shall provide the following information on the air pollution control devices:

a. General condition of equipment, noting any deficiencies or problems with the equipment that occur during testing.
b. Normal operating parameters of the equipment and the actual operation parameters for each test run.

[Permit No. 0630045-005-AC, Condition A.4.b.]

D.19. Flare Records. The owner or operator shall keep up-to-date, readily accessible records for the life of the control equipment of the following data: all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent, as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal. [40 CFR 60.758(b)(4)]

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D.20. Operation Parameter Records. The owner or operator shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.756 (see Specific Condition **D.8.**) as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

a. The owner or operator shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 60.756 (see Specific Condition **D.8.**).

b. The owner or operator shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 60.756(c) (see Specific Condition **D.8.**), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

[40 CFR 60.758(c)(2) & (4)]

D.21. Exceedance Records. The owner or operator shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedences of the operational standards in 40 CFR 60.753 (see Specific Condition **B.7.**), the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e)]

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