

- b. The owner or operator of a Municipal SLS shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in § 60.759(a)(3)(i) of 40 CFR as well as any nonproductive areas excluded from collection as provided in § 60.759(a)(3)(ii) of 40 CFR.
45. Except as provided in § 60.752(b)(2)(i)(B) of 40 CFR, the owner or operator of a Municipal SRS shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in § 60.753 of 40 CFR, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
46. In accordance with section 60.759(a) of 40 CFR, the owner or operator seeking to comply with section 60.752(b)(2)(i) of 40 CFR shall 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 EPA as provided in §60.752(b)(2)(i)(C) and (D) of 40 CFR.
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- a. 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.
- b. The sufficient density of gas collection devices determined in section 60.759(a)(1) of 40 CFR, 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.
- c. The placement of gas collection devices determined in section 60.759(a)(1) of 40 CFR shall control all gas producing areas, except as provided below:
- i. Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under § 60.758(d). 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 Board upon request.
- ii. Any nonproductive area of the SLS may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1% 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 EPA and EQB 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 equation described in section 60.759(a)(3)(ii) of 40 CFR.

- iii. The values for k , L_0 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. If field testing has not been performed, the default values for k , L_0 and C_{NMOC} provided in § 60.754(a)(1) or 60.754(a)(5) of 40 CFR. The mass of non-degradable 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 section 60.759 (a)(3)(i) of 40 CFR.
47. In accordance with section 60.759(b) of 40 CFR, the owner or operator seeking to comply with section 60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures:
- a. 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.
 - b. 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.
 - c. 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.
48. In accordance with section 60.759(c) of 40 CFR, the owner or operator seeking to comply with section 60.752(b)(2)(i)(A) of 40 CFR shall convey the landfill gas to a control system in compliance with § 60.752(b)(2)(iii) of 40 CFR through the collection header pipes. The gas mover equipment shall be sized to handle the maximum gas generation flow rate

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expected over the intended use period of the gas moving equipment using the following procedures:

- a. For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in section 60.759(c)(2) of 40 CFR shall be used.
- b. For new collection systems, the maximum flow rate will be that established in section 60.755(a)(1).

**SECTION V (C) - CONDITIONS ACCORDING TO 40 CFR PART 63, SUBPART AAAA
- NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS:
MUNICIPAL SOLID WASTE LANDFILLS**

1. The permittee shall comply with the applicable requirements of Subpart WWW, pursuant to section 63.1955(a)(1) of 40 CFR.
2. The permittee shall comply with the requirements of sections 63.1960 through 63.1980 of 40 CFR and the general provisions set out in Table 1 to subpart AAAA of 40 CFR. [40 CFR §63.1955 (b)]
3. 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) of 40 CFR. [40 CFR §63.1955(c)]
 - a. If alternatives have already been approved under 40 CFR Part 60, Subpart WWW or the Federal Plan, or EPA approved and effective State Plan, these alternatives can be used to comply with Subpart AAAA of 40 CFR, **except** that all affected facilities shall comply with the requirements of the Startup, Shutdown and Malfunctioning Plan (SSM) as specified in Table 1 to Subpart AAAA of 40 CFR.
 - i. The facility must submit Compliance Reports every 6 months as specified in § 63.1980(a) and (b) of 40 CFR, including information on all deviations that occurred during the 6-month reporting period.
 - ii. The deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block⁸ average.
4. Compliance with 40 CFR Part 63 Subpart AAAA is determined in the same way it is determined for 40 CFR Part 60, Subpart WWW, including performance testing, monitoring

⁸Averages are calculated in the same way as they are calculated in 40 CFR Part 60, Subpart WWW, **except** that the data collected during the events listed in sections 63.1975(a), (b), (c), and (d) of 40 CFR are not to be included in any average computed under Subpart AAAA of 40 CFR.

of the collection system, continuous parameter monitoring, and other credible evidence. [40 CFR §63.1960]

- a. Continuous parameter monitoring data, collected under 40 CFR sections 60.756(b)(1), (c)(1), and (d) of subpart WWW, are used to demonstrate compliance with the operating conditions for control systems.
 - i. If a deviation occurs, the facility has failed to meet the control device operating conditions described in 40 CFR Part 63 Subpart AAAA.
5. The permittee shall develop and implement a Startup, Shutdown and Malfunctioning Plan (SSM) **written** according to the provisions under section 63.6(e)(3) of 40 CFR. [40 CFR §63.1960]
 - a. A copy of the SSM plan must be maintained on site.
 - b. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of 40 CFR Subpart AAAA.
 - ii. A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of subpart WWW are exceeded. [40 CFR §63.1965 (a)]
 - iii. A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. [40 CFR §63.1965 (b)]
 1. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.
 - iv. A deviation occurs when a SSM plan is not developed or maintained on site. [40 CFR §63.1965 (c)]
6. The permittee shall keep records and reports as specified in 40 CFR Part 60, Subpart WWW, **except** that the annual report described in 40 CFR 60.757(f) every **6 months** must be submitted. [40 CFR §63.1980 (a)]
7. The permittee shall keep records and reports as specified in the general provisions of 40 CFR Part 60 and as shown in Table 1 to Subpart AAAA Part 63 of 40 CFR. [40 CFR §63.1980 (b)]

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SECTION V (D) - OTHER SPECIFIC CONDITIONS

CD-1 and CD-2 Enclosed Gas Flares

1. The permittee shall operate by burning up to 850 cubic feet per minute (scfm) on each burner (CD-1 and CD-2), for a total capacity of 1,699 cubic feet per minute. [PFE-70-0113-0010-I-II-III-C]
2. The permittee shall prepare and keep a monthly record containing the daily amount (on a monthly rotating basis) of collected landfill gas routed to each of the CD-1 and CD-2 units. [PFE-70-0113-0010-I-II-III-C]
3. The authorized auxiliary fuel for the flares will be propane gas and shall not exceed a maximum consumption of 10 hours per year with a maximum sulfur content of 0.00001 weight-percent. [PFE-70-0113-0010-I-II-III-C]
4. Gas flares shall operate in a manner that does not produce visible emissions, as determined by Test Method 22 of 40 CFR Part 60 Appendix A, except for periods not to exceed 5 minutes during any 2 consecutive hours but in compliance with RCAP Rule 403. [PFE-70-0113-0010-I-II-III-C]
5.  The CD-1 and CD-2 should be installed, operated and maintained in accordance with manufacturer's specifications so that the operational efficiency of the unit is not affected. The manufacturer's specifications should be available at all times at the facility for review by the technical staff of the Board. [PFE-70-0113-0010-I-II-III-C]
6. A monthly record of maintenance offered to CD-1 and CD-2 shall be kept. Such record shall be kept at the facility for review by Board staff or for submission to the Board when required. [PFE-70-0113-0010-I-II-III-C]
7.  **A performance test shall be performed within 180 days** of the construction or installation of the collection and control system (**CD-1 and CD-2**) and the final compliance achieved. [PFE-70-0113-0010-I-II-III-C]
8. According to Rule 106(C) of the RCAP, the owner or operator shall submit to the Board at least 30 days prior to the start of the performance test for CD-1 and CD-2, a detailed test protocol describing all test equipment, procedures and Quality Assurance (QA) measures to be utilized. The protocol must be specific for the test, facility, operating conditions and parameters to be measured. The protocol should include, but not limited to the following:
 - a. Stack diagram showing test ports, their distances from upstream and downstream disturbances, the stack diameter, and planned sampling equipment and monitoring locations.
 - b. A determination of the presence and degree of cyclonic flow.

- c. The proposed number or sampling traverse points, sampling time at each point, and total sampling volume.
- d. A detailed description of all sampling, sample recovery, and analytical procedures. The entire procedure. The entire procedure in the case of nonstandard procedures or modification should be described with justifications and necessary data for backup. Options offered by the Reference Method should be selected and justified.
- e. Any special conditions for the preparation of the sampling equipment and containers to avoid sample contamination.
- f. Samples of forms to be used to record sample history, sampling conditions and equipment operation conditions.
- g. Methodology for measurement of equipment operating conditions, including production rate, fuel flow rate, process data and pollution control data, all to be recorded at a minimum of 15 minute intervals.
- h. If more than one sampling train is to be used, detailed description of the relevant sequencing and logistics.
- i. If Continuous Emission Monitors (CEMs) are to be used, detailed description of the operating and data logging procedures.

9. In accordance with Rule 106(D) of the RCAP, the permittee shall provide the Board at least 15 days of prior written notification of any test required by the Board, to afford the EQB the opportunity to have an observer present. Results of any test done in the absence of an approved Work Plan will not be accepted.

10. Two copies of the emission test reports shall be submitted by the permittee to the Board within 60 days after the performance of the emission test. This report shall comply with the provisions of Rule 106(E) of the RCAP. The sampling report should include, but not limited to, the following:

- a. A summary of emission rates, isokinetic sampling rates, operational level and any other relevant process, fuel, or control device parameters monitored during the test.
- b. All field data collected, including legible copies of field data sheets (raw data) and any transcribed or computer data sheets that may be relevant.
- c. All laboratory data, including blanks, tare weights, calibration data, quality assurance samples, and results of the analyses.
- d. All calculations used in the determinations of emission rates, process rates, or other factors relevant to the test results, compliance, etc.

11. In accordance with Rule 106(F) of the RCAP, during compliance testing the emission source must be operated at its maximum rated capacity or based on representative performance of the affected facility; understanding that, after proving compliance with any applicable emission limit, the Board may restrict the operation of the source at the capacity reached during the performance test.
12. The permittee shall characterize quarterly the condensate generated in vertical wells and gas collection system in general to determine its composition and whether it exhibits any hazardous characteristic according to the definition of hazardous waste of the RCAP, Regulation of Hazardous Solid Waste or 40 CFR Part 261. [PFE-70-0113-0010-I-II-III-C]
13. If condensate evaporation occurs in the vertical wells, the permittee shall calculate fugitive emissions of Hazardous Air Pollutants as defined in the RCAP. [PFE-70-0113-0010-I-II-III-C]
14. The Board will send a monthly report regarding flares CD-1 and CD-2 indicating:
 - a. monthly fuel consumption;
 - b. hours of operation;
 - c. daily fuel sulfur content in weight-percent. These reports will be sent to the Data Validation and Mathematical Modeling Division of the Air Quality Area of the EQB no later than the next 15 days of the following month for which the report is representative. [PFE-70-0113-0010-I-II-III-C]

CD-3 (Landfill gas routed towards two internal combustion engines; EU-4 and EU-5)

15. The internal combustion engine EU-4 shall operate for a maximum of 8,000 hours per year using landfill gas. [PFE-70-0113-0010-I-II-III-C]
16. The internal combustion engine EU-5 can operate for a maximum of 2,950 hours per year using landfill gas. [PFE-70-0113-0010-I-II-III-C]
17. Each internal combustion engine (EU-4 and EU-5), shall have a non-resettable hour meter in order to verify the hours of operation and calculate the fuel consumption. [PFE-70-0113-0010-I-II-III-C]
18. The internal combustion engines EU-4 and EU-5, shall only use as fuel the collected landfill gas. To authorize any other fuel, the permittee shall request and obtain a modification of the construction permit PFE-70-0113-0010-I-II-III-C.
19. The fuel sulfur content in weight-percent may not exceed that listed in Section II of this permit for the internal combustion engines EU-4 and EU-5. [PFE-70-0113-0010-I-II-III-C]
20. A monthly record showing the date, hour meter reading and the total hours of operation, the

monthly fuel consumption and fuel sulfur content in weight-percent for the internal combustion engines EU-4 and EU-5 shall be kept for evaluation and review of the technical staff of the Board. [PFE-70-0113-0010-I-II-III-C]

21. The permittee shall not allow raw landfill gas to be vented to the atmosphere during the operation of internal combustion engines EU-4 and EU-5. [PFE-70-0113-0010-I-II-III-C]
22. The permittee shall install and maintain a safety valve for automatic failures in the internal combustion engine. The valve shall stop the flow of gas in the event that a failure occurs in the internal combustion engine. [PFE-70-0113-0010-I-II-III-C]
23. The permittee shall maintain records on a monthly rotating basis of:
 - a. The hours of operation for each engine including any startup, shutdown, or malfunction in the operation of the equipment.
 - b. The total gas flow from each internal combustion engine.
 - c. Maximum total power generated (kW-hr) for each internal combustion engine.
24. Landfill gas shall be filtered, dried and compressed before being used in each internal combustion engine (EU-4 and EU-5):
 - a. The permittee shall install a dry filter or similar device. The filter shall be used to remove particulate matter produced in the gas streams before starting the combustion process. The permittee shall ensure compliance with the minimum removal of particulate matter of 10 microns (PM-10).
 - b. The permittee shall install a cooling system (using chillers or other de-watering equipment) to maintain water levels in the gas and prevent degradation in the combustion process. This system shall also lower the dew point of the landfill gas at least 20 degrees Fahrenheit with a drying process (de-watering) and compression (using blowers or similar equipment).
 - c. The permittee shall install, maintain and operate this equipment in accordance with manufacturer's specifications and install, operate and maintain:
 - i. A meter to measure the pressure drop through the filtration system.
 - ii. A device to measure the difference in temperature across the gas drying process.
25. The permittee shall not exceed the opacity limit of 20% in a 6-minute average for each internal combustion engine. However, the permittee may discharge into the atmosphere visible emissions of an opacity up to 60 % for a period of no more than four (4) minutes in any consecutive thirty (30) minutes interval. [Rule 403(A) of the RCAP]

26. The permittee shall hire an independent opacity reader, certified by a school approved or endorsed by the EPA or the Board to conduct an opacity reading of the stack/chimney of each internal combustion engine no later than 180 days after the initial startup of each engine. Method 9 described in Appendix A of 40 CFR Part 60 must be used. The engine should be operating at the time of the opacity readings.
- The permittee shall submit to the Board at least 30 days prior to the initial opacity reading a copy of the format to be used to record visible emissions.
 - Notify in writing to the Board at least 15 days before the initial sampling using Method 9, to afford the Board the opportunity to have an observer present. [Rule 106(D) of the RCAP]
 - Submit two copies of the initial sampling results report using Method 9 within 60 days after the tests. This report shall contain the information required by Rule 106(E) of the RCAP.
27. The permittee shall send to the Board, along with the semiannual report required in general condition 14, a summary of the report concerning the internal combustion engines EU-4 and EU-5 indicating:
- monthly fuel consumption;
 - hours of operation;
 - daily fuel sulfur content in weight-percent.
 - An annual report will be sent to the Division of Data Validation and Mathematical Modeling Division of the Air Quality Area of the EQB no later than the next 15 days of the following year for which the report is representative. [PFE-70-0113-0010-I-II-III-C]

Compliance with 40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines for EU-4 and EU-5.

28. Internal combustion engines EU-4 and EU-5 are subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines contained under Subpart ZZZZ of Part 63 of 40 CFR. The permittee shall comply with the applicable requirements of Subpart ZZZZ by complying with the applicable requirements of Subpart JJJJ of Part 60 of 40 CFR.

Compliance with 40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines for EU-4 and EU-5

29. The permittee shall comply with the emissions cap established on Table 1 of 40 CFR Part 60 Subpart JJJJ for the following pollutants: nitrogen oxide (NO_x), carbon monoxide (CO) and volatile organic compounds (VOC). The emission limits authorized under this permit are mentioned in the table below:

Engine type and fuel:	Manufacturing date:	Emission Standards					
		g/HP-hr			ppmv at 15%O ₂		
		NO _x	CO	VOC	NO _x	CO	VOC
EU-4 and EU-5 Landfill/ Digester gas	7/1/2010	2.0	5.0	1.0	150	610	80

30. The permittee shall comply with the emission standard as specified in section 60.4233(e) of 40 CFR, demonstrating compliance with the requirements of section 60.4243(b)(1) for certified engines or with section 60.4243(b)(2) of 40 CFR, Subpart JJJJ for non-certified engines. [40 CFR §60.4243 (b)]

31. If the engine is certified, the permittee shall demonstrate compliance with one of the methods specified in section 60.4243(a) of 40 CFR. That is, purchasing a certified engine that complies with the emissions established in condition 29. That is, it must comply with one of the following methods: [40 CFR §60.4243(b)(1)]

- 1) Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, keep records of conducted maintenance to demonstrate compliance, but no performance testing will be required. The permittee must also comply with the requirements specified in 40 CFR Part 1068, subparts A through D, as applicable to each engine. If the settings are adjusted according to and consistent with the manufacturer's instructions, the engine will not be considered out of compliance. [40 CFR §60.4243(a)(1)]
- 2) If the certified engine and control equipment, if any, are not operated according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and compliance must be demonstrated according to section 60.4243(a)(2)(iii) of 40 CFR.
 - i. The permittee must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee **must conduct an initial performance test** within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance. [40 CFR §60.4243 (a) (2) (iii)]

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32. If the engine is not certified, the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §60.4243(b)(2)(ii)]

1) The permittee shall conduct **initial performance tests** to demonstrate compliance with emission standards set out in condition 29 for pollutants CO, NO_x and VOC. For every internal combustion engine, the permittee shall conduct an initial performance test within 60 days after reaching permitted capacity, but not later than 180 days after initial startup of each engine in question. Then the permittee **must conduct subsequent performance testing every 8,760 hours or 3 years**, whichever comes first, to demonstrate compliance with the emission standards set out in condition 29. [40 CFR §60.4243(b)(2)(ii) and 40 CFR §60.8(a)]

2) According to Rule 106(C) of the RCAP, the permittee shall submit to the Board 30 days prior to the start date of each performance test, the detailed sampling protocol, sampling equipment, procedures and quality assurance measures to be used. The protocol must be specific to the test, the facility, operating conditions and the parameters measured. The protocol should include, but not limited to the following:

- i. A diagram showing the fireplace doors, the distance at the beginning and end of each obstruction, the diameter of the chimney and the planned location of the sampling equipment and monitoring.
- ii. A determination of the presence and degree of cyclonic flow.
- iii. The proposed number or sampling traverse points, sampling time at each point, and total sampling volume.
- iv. A detailed description of all sampling, sample recovery, and analytical procedures. The entire procedure in the case of nonstandard procedures or modification should be described with justifications and necessary data for backup. Options offered by the Reference Method should be selected and justified.
- v. Any special conditions for the preparation of the sampling equipment and containers to avoid sample contamination.
- vi. Samples of forms to be used to record sample history. Sampling conditions and equipment operation conditions.
- vii. Methodology for measurement of equipment operating conditions, including production rate, fuel flow rate, process data and pollution control data, all to be recorded at a minimum of 15 minute intervals.

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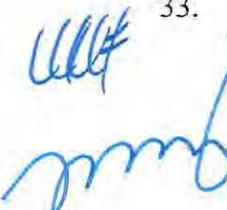
- viii. If more than one sampling train is to be used, detailed description of the relevant sequencing and logistics.
 - ix. If Continuous Emission Monitors (CEMs) are to be used, detailed description of the operating and data logging procedures.
- 3) In accordance with RCAP Rule 106(D), shall provide the Board at least 15 days of prior written notification of any test required by the Board, to afford the EQB the opportunity to have an observer present. Results of any test done in the absence of an EQB's approved Work Plan (Protocol) will not be accepted.
- 4) In accordance with RCAP Rule 106(E), two copies of the emission test reports shall be submitted by the permittee to the Board within 60 days after the performance of the emission test. The emission test report should include at a minimum, the following:
- i. A summary of emission rates, isokinetic sampling rates, operational level and any other relevant process, fuel, or control device parameters monitored during the test.
 - ii. All field data collected, including legible copies of field data sheets (raw data) and any transcribed or computer data sheets that may be relevant.
 - iii. All laboratory data, including blanks, tare weights, calibration data, quality assurance samples, and results of the analyses.
 - iv. All calculations used in the determinations of emission rates, process rates, or other factors relevant to the test results, compliance, etc.
- 5) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 of 40 CFR Part 60 Subpart JJJJ. [40 CFR §60.4244(a)]
- 6) The permittee may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR §60.8(c). If the engine is non-operational, it is not necessary to startup the engine solely to conduct a performance test; however, the performance test must be conducted immediately upon startup of the engine. [40 CFR §60.4244(b)]
- 7) The permittee must conduct three separate test runs for each performance test required under 40 CFR §60.4244 (c), as specified in 40 CFR §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour. [40 CFR §60.4244 (c)]

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- 8) The permittee shall demonstrate compliance with the emission limits in accordance with 40 CFR §60.4244 as follows:
- i. To determine compliance with the NO_x mass per unit output emission limitation, the permittee shall convert the concentration of NO_x in the engine exhaust using Equation 1 of 40 CFR §60.4244(d).
 - ii. To determine compliance with the CO mass per unit output emission limitation, the permittee shall convert the concentration of CO in the engine exhaust using Equation 2 of 40 CFR §60.4244(e).
 - iii. For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, the permittee shall convert the concentration of VOC in the engine exhaust using Equation 3 of 40 CFR §60.4244(f).
 - iv. The permittee may choose to measure VOC emissions using Method 18 of 40 CFR Part 60, Appendix A, or Method 320 of 40 CFR Part 63, Appendix A following the methodology and equations established in 40 CFR §60.4244(g).

33. The permittee shall keep records of the following:

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- a. All notifications submitted to comply with 40 CFR Part 60 Subpart JJJJ and all documentation supporting any notification. [40 CFR §60.4245(a)(1)]
 - b. Maintenance conducted on the engine. [40 CFR §60.4245(a)(2)]
 - c. If the engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR §60.4243(a)(2), documentation that the engine meets the emission standards. [40 CFR §60.4245(a)(4)]

34. The permittee with an engine that have not been certified by an engine manufacturer to meet the emission standards in §60.4231 must submit an initial notification (postmarked no later than 30 days after the date of construction) as required in 40 CFR §60.7(a)(1). The notification must include the following:

- a. Name and address of the owner or operator;
- b. The address of the affected source;
- c. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- d. Emission control equipment; and

e. Fuel used.

35. In addition to the specific requirements of this permit, the permittee shall comply with the requirements of 40 CFR Part 60, Subpart A - General Provisions as specified in Table 3 of 40 CFR 60 Subpart JJJJ. [40 CFR §60.4246]

Units EU-2 and EU-3 Internal Combustion Engines

36. The operation of the internal combustion engine EU-2 shall not exceed 1,000 hours per year. [PFE-70-0804-1312-C-II]
37. The operation of the internal combustion engine EU-3 shall not exceed 3,750 hours per year. [PFE-70-0804-1312-C-II]
38. Internal combustion engines (electricity generators) shall have a non-resettable hour meter before engine startup in order to verify the hours of operation and calculate the fuel consumption. [PFE-70-0804-1312-II-C]
39. The sulfur content of the diesel fuel shall not exceed 0.2% by weight for internal combustion engines EU-2 and EU-3. [PFE-70-0804-1312-II-C]
40. The permittee shall keep a monthly record showing the date, hour meter reading and the total hours of operation, the monthly fuel consumption and fuel sulfur content in weight-percent for evaluation and review of the technical staff of the Board. [PFE-70-0804-1312-II-C]
41. The permittee shall keep a monthly record on a rotating basis of hours of operation of each engine including any startup, shutdown, or malfunction in the operation.
49. The permittee shall send to the Board, along with the semiannual report required in the general condition 14, a summary of the report concerning the internal combustion engines EU-2 and EU-3 indicating:
- monthly fuel consumption;
 - hours of operation;
 - daily fuel sulfur content in weight-percent; and
 - An annual report will be sent to the Data Validation and Mathematical Modeling Division of the Air Quality Area of the EQB no later than the next 15 days of the following year for which the report is representative. [PFE-70-0804-1312-II-C]

Compliance with 40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines EU-2 and EU-3

42. The internal combustion engines of the EU-2 and EU-3 units are affected 40 CFR Part 63, Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE NESHAP), as defined in section 63.6585(a) of 40 CFR. The permittee must be in compliance with the applicable requirements of this regulation on or before **May 3, 2013**.
43. According to Table 2d to Subpart ZZZZ, the permittee shall:
- a. change oil and filter every 500 hours of operation or annually, whichever comes first;
 - 1) Sources have the option to utilize an oil analysis program as described in 40 CFR § 63.6625(i) in order to extend the specified oil change requirement in Table 2d to Subpart ZZZZ.
 - b. inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
 - c. inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
44. In accordance with 40 CFR §63.6625, the permittee shall:
- a. operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop 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.
 - b. install a non-resettable hour meter if one is not already installed.
 - c. 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.
45. The permittee must comply with the applicable monitoring, installation, collection, operation and maintenance requirements of 40 CFR §63.6625 (e), (h) and (i).
46. In accordance with 40 CFR §63.6605, the permittee shall operate the engine in a manner consistent with minimizing emissions.
47. The permittee must demonstrate continuous compliance with the operating limits and other applicable requirements under 40 CFR §63.6040.

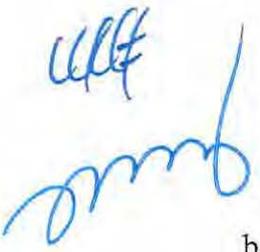
- a. In accordance with 40 CFR §63.6640, the permittee shall operate and demonstrate compliance with the Work and Management Practices contained in Table 6 of Subpart ZZZZ.
48. You must comply with all applicable reporting requirements of 40 CFR §63.6040, except sections 63.6040(c) and (f).
49. The permittee shall comply with the **General Provisions** of sections 63.1 through section 63.15 that apply, which are included in Table 8 to Subpart ZZZZ of 40 CFR.

Unit EU-7: Internal combustion engine

50. The operation of the internal combustion engine EU-7 shall not exceed 4,000 hours per year. [PFE-70-0804-1312-II-C]
51. The internal combustion engine (electric generator) shall have installed a non-resettable hour meter before the initial engine startup in order to verify the hours of operation and calculate the fuel consumption. [PFE-70-0804-1312-II-C]
52. The sulfur content of the diesel fuel shall not exceed 0.2% by weight for EU-7. [PFE-70-0804-1312-II-C]
53. A monthly record showing the date, hour meter reading and the total hours of operation, the monthly fuel consumption and fuel sulfur content in weight-percent shall be kept for evaluation and review of the technical staff of the Board. [PFE-70-0804-1312-II-C]
54. The permittee shall keep a monthly record on a rolling basis of hours of operation of each engine including any startup, shutdown, or malfunction in the operation.
63. The permittee shall send to the Board, along with the semiannual report required in general condition 14, a summary of the report concerning the internal combustion engine EU-7 indicating:
 - a. monthly fuel consumption;
 - b. hours of operation;
 - c. daily fuel sulfur content in weight-percent.
 - d. An annual report will be sent to the Data Validation and Mathematical Modeling Division of the Air Quality Area of the EQB no later than the next 15 days of the following year for which the report is representative. [PFE-70-0804-1312-II-C]

Compliance with 40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines EU-7

55. The internal combustion engine EU-7 is subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines contained in Subpart ZZZZ of Part 63 of 40 CFR.
56. If the engine was manufactured on or before April 1, 2006, it must meet the following requirements on or before **May 3, 2013**.
- a. According to Table 2d to Subpart ZZZZ the permittee shall:
- 1) Change oil and filter every 500 hours of operation or annually, whichever comes first (Sources have the option to utilize an oil analysis program as described in 40 CFR §63.6625(i) in order to extend the specified oil change requirement in Table 2d to Subpart ZZZZ.);
 - 2) inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
 - 3) inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
- b. In accordance with 40 CFR §63.6625, the permittee shall:
- 1) operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop 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 practices for minimize emissions.
 - 2) install a non-resettable hour meter, if one is not already installed.
 - 3) minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for the appropriate and safe loading of the engine, not to exceed 30 minutes.
- c. The permittee must comply with the applicable monitoring, installation, collection, operation and maintenance requirements of 40 CFR §63.6625 (e), (h) and (i).
- d. In accordance with 40 CFR §63.6605, the permittee shall operate the engine in a manner that minimize emissions.
- e. The permittee must demonstrate continuous compliance with the operating limits and other applicable requirements under 40 CFR §63.6040.



- 1) In accordance with 40 CFR §63.6640, the permittee shall operate and demonstrate compliance with the Work and Management Practices contained in Table 6 of Subpart ZZZZ.
- f. You must comply with all applicable reporting requirements of 40 CFR §63.6040, except sections 63.6040(c) and (f).
- g. The permittee shall comply with the **General Provisions** of sections 63.1 through section 63.15 that apply, which are included in Table 8 to Subpart ZZZZ of 40 CFR.

Compliance with 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines: EU-7

- 57. If the engine was manufactured after April 1, 2006, the permittee shall comply with the applicable requirements of subpart ZZZZ by complying with the applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Compression Ignition Internal Combustion Engines at Area Sources contained in Subpart IIII of Part 60 of 40 CFR.
 - a. If the engine is a pre-2007 model, the permittee must comply with the following requirements, as applicable:

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Requirements	40 CFR Part 60
Emission Standards	60.4204(a) Table 1
Fuel	60.4207(a), (b), (e)
Import/installation	60.4208(a) to (f), (i)
Monitoring	If equipped with a diesel particulate filter (DPF) ⁹ : 60.4209(b)
Compliance	60.4206 60.4211(a), (b), (g)
Tests	60.4212 60.4204(d)
Notification, Reporting and Recordkeeping	If greater than 175 hp and not certified 60.4214(a). If equipped with DPF: 60.4214(c)
General Provisions	Table 8

- b. If the engine is a 2007 model, you must meet the following requirements, as applicable:

Requirements	40 CFR Part 60
Emission Standards	60.4204(b) 60.4201
Fuel	60.4207(a), (b), (e)

⁹ Diesel Particulate Filter (DPF)

Requirements	40 CFR Part 60
Import/installation	60.4208(a) - (i)
Monitoring	If it is equipped with DPF: 60.4209(b)
Compliance	60.4206 60.4211(a), (c), (g)
Tests	60.4212 60.4204(d)
Notification, Reporting and Recordkeeping	If it is equipped with DPF: 60.4214(c)
General Provisions	Table 8

- c. If the engine was modified or reconstructed after July 11, 2005, the following requirements must be complied with, as applicable:

Requirements	40 CFR Part 60
Emission Standards	<u>Pre-2007:</u> 60.4204(a) <u>2007 and forward:</u> 60.4204(b)
Fuel	60.4207(a), (b), (e)
Import/installation	60.4208(i)
Monitoring	If it is equipped with DPF: 60.4209(b)
Compliance	60.4206 60.4211(a), (e), (g)
Tests	60.4212 60.4204(d)
Notification, Reporting and Recordkeeping	For Pre-2007 and over 175 HP non-certified models: 60.4214(a). If it is equipped with DPF: 60.4214(c)
General Provisions	Table 8

Visible Emissions Limit for units EU-2, EU-3, EU-4, EU-5 and EU-7:

58. The permittee shall not exceed the opacity limit of 20% for each unit in a 6-minutes average. However, according to RCAP Rule 403(A), the permittee may discharge visible emissions with an opacity of 60% for a period no longer than 4 minutes in any consecutive 30 minutes. [Rule 403(A) of the RCAP]
- a. The permittee shall hire an independent opacity reader, certified by a school approved or endorsed by the EPA or the Board to conduct an opacity reading of the stack of each

unit during the first year of duration of the permit using Method 9 described in Appendix A of 40 CFR Part 60. The equipment should be operating at the time of the opacity reading.

- b. The permittee shall submit to the Board at least 30 days prior to the initial opacity reading a copy of the format to be used to record visible emissions.
- c. The permittee shall notify the Board in writing 15 days before the initial monitoring using Method 9, to afford the Board the opportunity to have an observer present. [Rule 106(D) of the RCAP]
- d. The permittee shall submit two copies of the initial monitoring results report using Method 9 within 60 days after the tests. This report shall contain the information required by Rule 106(E) of the RCAP. The requirements of the subsequent readings will be submitted in the readings summary that will be ratified with the semiannual report required in this permit.
- e. The Board reserves the right to require additional visible emission readings in order to demonstrate compliance with the opacity limit.

EU-6 - Roadway Activities

59. The activities in roadways EU-6 of the **VMTB** including hauling and waste disposal are limited to operate 313 days a year. The speed of vehicles on unpaved haul roads shall not exceed 15.5 miles per hour. [PFE-70-0113-0010-I-II-III-C]
60. The **VMTB** will apply asphalt, water, suitable chemical compounds or use vegetation on dirt roads or highways under construction, materials, stockpiles and other surfaces that could cause airborne dust. [Rule 404(A)(2) of the RCAP]
- a. The **VMTB** must keep track of the use of dust suppressant equipment for processes that are operated manually and are intermittent. For example, operating a water truck to spray roads. This record shall be kept available at all times at the facility for review by the technical staff of the Board and the EPA.
 - b. The permittee shall maintain in the SLS appropriate equipment for dust suppression and they must be in good condition and able to operate at all times while the SLS is in operation.
61. **VMTB** must cover, at all times while in motion, open bodied trucks transporting materials likely to give rise to airborne particulate dust. [Rule 404(A)(4) of the RCAP]
62. When reasonable, **VMTB** shall pave the roads and keep them clean. [RCAP Rule 404(A)(6)]

- 63. The permittee shall promptly remove earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, by erosion by water, or by other means. [Rule 404(A)(7) of the RCAP]
- 64. Any area, lot, or part of a piece of land intended for parking with a capacity greater than 900 square feet must be paved with concrete, asphalt, equivalent hard surface or chemical stabilization on all its access and internal roads where unpaved traffic adjoin paved roadways and parking areas. [Rule 404 (D) of the RCAP]
- 65. **VMTB** shall retain records of all required sampling/monitoring data and support information for a period of 5 years from the date of sampling, measurement, report or sampling application. [Rule 603(a)(4)(ii) of the RCAP]

Other requirements

- 66. The permittee shall comply with the requirements for Monitoring, Recordkeeping and Reports as established under Table 1 of this permit. [PFE-70-0113-0010-I-II-III-C]

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Table 1 - Monitoring, Recordkeeping and Reporting	
Continuous Monitoring	Flares should have a constant measure of the presence of the flame and the gas flow to the control device.
Monthly Monitoring	The permittee shall: <ol style="list-style-type: none"> 1. Measure gauge pressure in the gas collection header. 2. Measure nitrogen or oxygen content in the landfill gas, and 3. Measure the temperature of the landfill gas.
Quarterly Monitoring	Methane concentrations in the surface using Method 21 of the APA.
Recordkeeping	The permittee shall have readily accessible in the facility: <ul style="list-style-type: none"> ▪ Records of the maximum design capacity ▪ Amount of waste at the site ▪ Performance/compliance testing ▪ Operating parameters/equipment exceedances ▪ Waste acceptance rate every year, for a period of at least 5 years ▪ Records of the manufacturer's specifications of the equipment shall be maintained until the Gas Control System is removed. ▪ A plot map showing all existing and planned collection wells, it must be maintained for the life of the Gas Control System. ▪ The date and location of any newly installed well. <p>The documentation regarding the nature, quantity, location, and date of disposal of any non-degradable waste excluded from the Gas Control System will be maintained.</p>
Reports:	<p>The reports will be submitted to the EQB and EPA. An annual report must include all information recorded according to 40 CFR §60.757(f)(1) through (f)(6).</p> <p>When the performance test is requested, it must be submitted with the annual report that shall contain the information listed in 40 CFR §60.757(g)(1) through (g)(6).</p> <p>An equipment removal report shall be submitted to EPA 30 days prior to removal or cessation of any control equipment and it must contain the information listed in 40 CFR §60.757(e)(1)(i) through (e)(1)(iii).</p>

Section VI - Insignificant Emission Units

The following activities will be considered insignificant if VMTB meets the descriptions below and is not subject to an applicable requirement.

Emission Source Identification	Units	Description (Exemption basis)
Engine of the vehicles for compacting the solid waste and daily layer.	6	Appendix B.3. iii to the RCAP
Engine of the <i>trucks</i> to carry the daily layer and roads aspersion.	-	Appendix B.3. iii to the RCAP
Maintenance activities	2	Appendix B.3.ii.(I) to the RCAP
Air conditioners	7	Rule 206(B)(1) of the RCAP
Refrigeration system	3	Rule 206(B)(2) of the RCAP
Diesel storage tanks (1,000 gallons, 3,500 gallons and 8,000 gallons)	3	Appendix B.3.iii (N) to the RCAP
Leachate tanks (6,000 gallons each)	2	Appendix B.3.iii (N) to the RCAP
Water tanks (4,000 gallons and two of 600 gallons)	2	Appendix B.3.iii. to the RCAP
Tank truck for new oil	5	Appendix B.3.iii (N) to the RCAP
Trucks (<i>pickup</i>)	1	Appendix B.3.iii. to the RCAP
Air compressors	3	Appendix B.3.xxiii to the RCAP
Used/waste oil bins (55 gallons)	5	Appendix B.3.ii (N) to the RCAP

Section VII - Permit Shield

A. According to RCAP Rule 603(D), compliance with the conditions of the permit shall be deemed as the compliance with any applicable requirement to the date of issuance, provided that the requirement is included and specifically identified in the permit.

(1) Non Applicable Requirements

Non Applicable Requirements	Regulation	Non Applicability Principle
Emission Guidelines for Municipal Sanitary Landfill Systems.	Part VII of the Regulation for the Control of Atmospheric Pollution.	It is a modified facility. Subject to 40 CFR, Part 60, Subpart WWW.

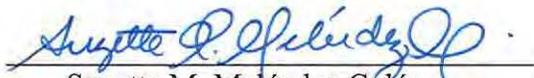
Non Applicable Requirements	Regulation	Non Applicability Principle
Standards of Performance for New Sources of Stationary Compression Ignition Internal Combustion Engines	40 CFR Part 60 Subpart IIII	Not applicable to units EU-4 and EU-5 because these are not compression ignition engines, but spark ignition engines. Not applicable to EU-2 and EU-3 engines because these were ordered before July 11, 2005.
Standards of Performance for New Sources of Stationary Spark Ignition Internal Combustion Engines	40 CFR, Part 60, Subpart JJJJ	Not applicable to EU-2, EU-3 and EU-7 because they are not spark ignited internal combustion engines, these engines are ignited by compression.
Particulate Matter Emission Cap for Fuel-Burning	RCAP Rule 406	Does not apply to EU-4 and EU-5 because it does not apply to equipment that burns gaseous fuel. Does not apply to EU-2, EU-3 and EU-7 because they do not meet the definition of Fuel-Burning Equipment from RCAP Rule 102.

Section VIII - Permit Approval

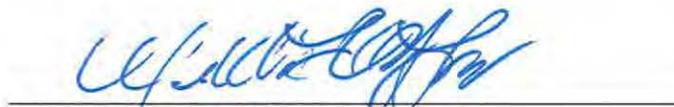
By virtue of the powers vested in the Environmental Quality Board by the Environmental Public Policy Law, Law No. 416 of September 22, 2004, as amended, and after verifying the administrative file and compliance with the Uniform Administrative Procedure Law, Law No. 170 of August 12, 1988, as amended, the Federal Clean Air Act, Environmental Public Policy Law and the Regulation for the Control of Atmospheric Pollution of Puerto Rico, the Environmental Quality Board approves the permit subject to the terms and conditions therein expressed.

In San Juan, Puerto Rico, June 9, 2016.

ENVIRONMENTAL QUALITY BOARD


Suzette M. Meléndez Colón
Vice President


Rebeca Acosta Pérez
Associate Member


Weldin F. Ortiz Franco
President

MUNICIPALITY OF TOA BAJA LANDFILL
PFE-TV-4953-70-0903-1526
TOA BAJA, PUERTO RICO
PAGE 56 OF 58

APPENDIX

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MMBtu	Million Btu
NESHAP	National Emission Standards for Hazardous Air Pollutants
NAAQS	National Ambient Air Quality Standards
NSPS	New Sources Performance Standards
NO _x	Nitrogen oxides
NMHC	Non-methane hydrocarbons
Pb	Lead
PM	Particulate matter
PM ₁₀	Particulate matter with a particle which diameter has an aerodynamic mass size equal to or less than (10) microns
PSD	Prevention of Significant Deterioration
RCAP	Environmental Quality Board Regulation for the Control of Atmospheric Pollution
RMP	Risk Management Plan
SIC	Standard Industrial Classification
scfm	Standard cubic feet per minute
SLS	Sanitary Landfill System
SO _x	Sulfur oxide
SO ₂	Sulfur dioxide
VMTB	Municipal Landfill of Toa Baja
VOC	Volatile Organic Compounds

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SLS

Appendix I - Definitions and Abbreviations

A. Definitions:

1. Law - Federal Clean Air Act, as amended, *42 U.S.7401, et seq.*
2. Responsible Official - See the definition of Responsible Official as established under the Regulation for the Control of Atmospheric Pollution of the Environmental Quality Board (1995).
3. Regulation - Regulation for the Control of Atmospheric Pollution of the Environmental Quality Board.
4. Title V - Title V of the Federal Clean Air Act (*42 U.S.C. 7661*).

B. Abbreviations

AP-42	Compilation of Air Pollutant Emission Factors
Btu	British Thermal Unit
C _{NMOC}	Non Methane Organic Compounds Concentration
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
NMOC	Non Methane Organic Compounds
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutants
EQB	Environmental Quality Board of Puerto Rico
k	Methane generation rate constant
Mg	Megagrams

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Environmental Quality Board

STATEMENT OF BASIS – TITLE V PERMIT
MUNICIPALITY OF TOA BAJA LANDFILL
PFE-TV-4953-70-0903-1526

The Environmental Quality Board (EQB) is issuing a Title V permit pursuant to Title 40 of the Code of Federal Regulations (CFR), Part 70 and Part VI of the Regulation for the Control of Atmospheric Pollution (RCAP) for the Municipality of Toa Baja Landfill (VMTB, in Spanish). The facility is located on Road PR-866 Km 1.5 in Sabana Seca Ward, Candelaria Sector of Toa Baja. Landfill Technologies, Corp. administrates the Municipal Sanitary Landfill System of Toa Baja. The EQB received an application for Title V permit on September 24, 2003, which was amended in December 30, 2009.

The Municipality of Toa Baja Landfill is an active non-hazardous solid waste municipal landfill. The VMTB is operating since the beginning of the 70s and it is estimated to reach its maximum capacity in 2014. The solid waste is carried in trucks and transportation vehicles, and deposited in the landfill work area (disposal area). Excavators and compactors spread and compact the waste after unloading. At the end of each work day these are covered with dirt. The decomposition of the encapsulated waste in the solid waste municipal landfill produces gases (greenhouse gases). The gas consists of methane (CH₄), carbon dioxide (CO₂) and other non-methane organic compounds (NMOC). The gas generated in the VMTB is collected through an active gas collection system directed to two enclosed flares and two internal combustion engines. In addition, the landfill has three internal combustion engines for three electricity generators that consume diesel.

The Municipality of Toa Baja Landfill is subject to the Title V permit requirements for being a major source of air pollutants since its Design Capacity is greater than 2.5 million cubic meters, and for being a major source exceeding 100 tons per year of carbon monoxide (CO) and NMOC (which includes volatile organic compounds) and more than 100,000 tons per year of greenhouse gases (GHGs) expressed as CO₂e (carbon dioxide equivalent).

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The landfill is subject to the applicable requirements of Title 40 of the Code of Federal Regulations, Part 60, Subpart WWW, New Sources Performance Standards (NSPS) for Municipal Solid Waste Landfills; and Part 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills.

Emission Units

The Emission Units section lists the significant emission units, the related control equipment, if any, and the type of fuel. This section is an overview of the facility. The emission units are the following:

EU-1: Municipal Sanitary Landfill System. The landfill only accepts non-hazardous municipal solid waste. It has a maximum design capacity of 8,115,550 megagrams. Control equipment: Two enclosed flares (CD-1 and CD-2) and two internal combustion engines (CD-3).

CD-1 and CD-2: Landfill Active Gas Collection and Control System. The landfill gas is collected and directed to two enclosed flares, both process a maximum of 1,699 scfm and a heat input of 25.5 MMBtu/hr each. The auxiliary fuel used is propane.

EU-2: Internal combustion engine for Electricity Generator. Includes a compression ignition internal combustion engine with a capacity of 42 hp. Consumes diesel at a rate of 3.5 gallons per hour. Authorized to operate 1,000 hours per year.

EU-3: Internal combustion engine for Electricity Generator. Includes a compression ignition internal combustion engine with a capacity of 95.2 hp. Consumes diesel at a rate of 4.73 gallons per hour. Authorized to operate 3,750 hours per year.

EU-4/CD-3: Internal combustion engine for Electricity Generator/Gas Treatment System. Spark ignition internal combustion engine with a capacity of 1,148 hp. Uses the landfill gas as fuel. Maximum flow is of 331 scfm. Authorized to operate 8,000 hours per year.

EU-5/CD-3: Internal combustion engine for Electricity Generator/Gas Treatment System. Spark ignition internal combustion engine with a capacity of 2,233 hp. Uses the landfill gas as fuel. Maximum flow is of 518.58 scfm. Authorized to operate 2,950 hours per year.

EU-6: Activities in Roadways. Entails the transportation through paved and unpaved roads generating fugitive emissions. To control fugitive emissions, water aspersion is used.

EU-7: Internal combustion engine for Electricity Generator. Includes a compression ignition internal combustion engine with a capacity of 33.5 hp. Consumes diesel at a rate of 4.73 gallons per hour. Authorized to operate 3,750 hours per year.

Allowable Emissions

The emissions described in the following table represent the facility allowable emissions at the time of the permit application and will be used only for payment purposes. According to Rule 610(a) of the RCAP, when the VMTB requests a modification, administrative change or minor modification to its Title V permit, the source will only pay those charges related with any emissions increase (if any) per ton, based on the change and not based on the previously paid total charges in conformity with Rule 610(a) of the RCAP.

Pollutants	Allowable Emissions (tons/year)
PM ₁₀	44.27
SO ₂	19.39
NO _x	43.71
CO	101.63
NMOC	185.73
VOC (combustion)	35.31
HAP's	4.96
CO _{2e}	143,352.24

According to the EQB Resolution RI-06-02¹, the emissions calculations will be based on the actual emissions of the VMTB; however, calculations based on the allowable emissions of the facility will be accepted. If VMTB decides to realize the calculations based on the allowable emissions, VMTB will pay the same charge per ton as the facilities that decide to make the calculations based on actual emissions. Also, according to EQB resolution R-04-04-1², to determine the charges for modification and renewal, VMTB shall calculate the emissions with the k, L_o and C_{CONM} factors established in 40 CFR Section 60.754(a)(1)(i) or the specific values of k, L_o and C_{CONM} as determined in 40 CFR Sections 60.754(a)(3)(1) and 60.754(a)(4).

According to EQB Resolution R-12-17-5³, those sources that must include or estimate GHGs emission are exempt from payment for Greenhouse Gases (expressed as CO_{2e}) in conformity with the Tailoring Rule for Title V permits until the Board issues a final determination stating the emissions charges or any other charges if needed or by repeal of this Resolution R-12-17-5, whichever happens first.

¹EQB Resolution - Payment procedure for Title V operating charges and Title V permit renewal charges, issued on March 20, 2006.

²EQB Resolution - Consultation to the Government Board about the annual calculation of the gas emissions to the atmosphere for Sanitary Landfills, issued on February 27, 2004.

³EQB Resolution, PR Tailoring Requirements for Greenhouse Gases (GHGs) – Payment exemption issued on September 7, 2012.

Applicable Requirements

New Sources Performance Standards (NSPS) for Municipal Solid Waste Landfills: 40 CFR, Part 60, Subpart WWW.

This emission source is subject to the performance standards of Subpart WWW because it was modified after May 30, 1991. The facilities that are subject to this subpart must install emissions controls if the NMOC emissions are greater than or equal to 50 Mg per year. Also this part requires the effective capture of the generated gas (approximately 70% of the generated gas is collected), minimize the underground gas migration outside the landfill limits and direct the collected gas to the enclosed flares (CD-1 and CD-2) that will be operated to reduce the NMOC by 98% or to the gas treatment system routed to two engines (CD-3).

National Emission Standards for Hazardous Air Pollutants (NESHAP): Municipal Solid Waste Landfills - 40 CFR Part 63 Subpart AAAA

This subpart applies to sources of areas subject to the applicability requirements of 40 CFR Part 60, Subpart WWW, that have a design capacity equal or greater than 2.5 million megagrams (Mg) and equal or greater than 2.5 million cubic meters (m³) and non-controlled NMOC estimated emissions of 50 Mg per year or more. The control technologies chosen by EPA are the same of Subpart WWW of 40 CFR, Part 60, therefore the MACT does not impose additional control requirements. The NESHAP imposes some additional requirements to determine compliance and reports that are necessary under section 112 of the Clean Air Act. This includes startup, shutdown, and malfunction (SSM) provisions, the use of continuous parameter monitoring data to determine compliance with the operating conditions requirements, and informing the deviations every 6 months instead of each year.

National Emission Standards for Hazardous Atmospheric Pollutants for Reciprocal Internal Combustion Engines - 40 CFR Part 63, Subpart ZZZZ

 This subpart applies to any stationary reciprocal internal combustion engine existing, new or reconstructed that is located in area sources or major sources of hazardous atmospheric pollutants. The VMTB is a minor source of hazardous atmospheric pollutants. The EU-3 and EU-4 engines are considered existing therefore they must comply with the applicable requirements of this Subpart. The engines of units EU-4/CD-3 and EU-5/CD-3 are considered new, therefore the compliance with this Subpart is shown by complying with the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines - 40 CFR Part 60 Subpart JJJJ . If the engine of unit EU-7 is existing it must comply with the applicable requirements of Subpart ZZZZ, if it is new it must comply with the applicable requirements of the New Sources Performance Standards for Stationary Compression Ignition Internal Combustion Engines - 40 CFR Part 60, Subpart IIII.

New Sources Performance Standards for Stationary Compression Ignition Internal Combustion Engines - 40 CFR Part 60 Subpart IIII

If the EU-7 engine is new, meaning it was ordered after July 11, 2005 and manufactured after April 1st, 2006, it must comply with the applicable requirements of this Subpart IIII. The standard establishes emission limits or manufacturer's certification for various criteria pollutants. In addition, they must comply with the established requirements in 40 CFR Part 60, Subpart A - General Provisions as applicable.

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines - 40 CFR Part 60 Subpart JJJJ

This subpart establishes the emission limits and compliance requirements for emissions control of the stationary spark ignition internal combustion engines that were constructed, modified or reconstructed after June 12, 2006. The EU-4 and EU-5 engines must comply with the requirements of this subpart. The standard establishes emission limits or manufacturer's certification for nitrogen oxides, carbon monoxide and volatile organic compounds. In addition, they must comply with the established requirements in 40 CFR Part 60, Subpart A - General Provisions as applicable.

The following requirements are not applicable to the following units of the Municipality of Toa Baja Landfill:

- Emissions Guidelines and Compliance Schedules for Municipal Sanitary Landfill Systems established under Part VII of the RCAP. The provisions of this part only apply to existing municipal sanitary landfill systems which construction, reconstruction or modification commenced before May 30, 1991.
- *mmj*
see New Sources Performance Standards for Stationary Compression Ignition Internal Combustion Engines - 40 CFR Part 60 Subpart IIII applies to stationary compression ignition internal combustion engines. This subpart does not apply to the engines of units EU-4 and EU-5 because these are spark ignition engines and not compression ignition engines. Not applicable to EU-2 and EU-3 engines because these were ordered before July 11, 2005.
- New Sources Performance Standards for Stationary Spark Ignition Internal Combustion Engines - 40 CFR Part 60, Subpart JJJJ applies to stationary spark ignition internal combustion engines. This Subpart does not apply to the engines of units EU-2, EU-3 and EU-7 because these are compression ignition engines and not spark ignition engines.
- Particulate Matter Emission Cap for Fuel-Burning Equipment, Rule 406 of the RCAP - Does not apply to EU-4 and EU-5 because it does not apply to equipment that burns gaseous fuel. According to the evaluation of comments from other cases, we recommend eliminating the requirements regarding the particulate matter cap of 0.3 lb per million Btu for the internal combustion engines under Rule 406 of the RCAP, since these engines do not comply with the definition of Fuel-Burning Equipment of Rule 102 of the RCAP, because they do not produce

power through internal conduction of heat. The definition for Fuel-Burning Equipment is any furnace, boiler, apparatus, chimney and all its accessories used in the process of burning fuels with the primary end of producing heat or power through internal conduction of heat.

The frequency of the reports for the compliance certification must be annual. Unless specifically established, all the terms and conditions of the Title V permit, including the provisions designated to limit the emission capacity of the source, are enforceable by the EPA and the citizens, under the Federal Clean Air Act. The terms and conditions that are designated as enforceable only by the state, as indicated by the permit, are only enforceable by the EQB.

The EQB has determined that this Title V Operating Permit fulfills the requirements under Part VI of the RCAP.

