



Bureau of Air Pollution Control

Facility ID No. A0018

Permit No. AP4953-1148.02

CLASS I AIR QUALITY OPERATING PERMIT

Issued to: Refuse, Inc. – Lockwood Regional Landfill (as Permittee)

Section VI. Specific Operating Conditions

A. Emission Unit F0.001 Location North 4,360.225 km, East 275.407 km, UTM (Zone 11, NAD 83)

System 01 – Municipal Solid Waste (MSW) Landfill – 555 acres maximum waste footprint Max. Design Cap. 42.5 million Megagrams of solid waste (46,848,200 tons)
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F0.001	Municipal Solid Waste Landfill
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Air Pollution Control Equipment

The Permittee calculated total uncontrolled NMOC (non-methane organic compounds) from **F0.001** as 549.4 Mg/yr (605.6 tons per year), which is greater than the 50 Mg/yr (55.1 ton per year) threshold that triggers landfill gas collection and control. Therefore, pursuant to 40 CFR Part 60, Subpart WWW (40 CFR 60.750, et. seq.) and NAC 445B.22073.1(a), Permittee is required to do the following:

- a. Maintain and operate a landfill gas (LFG) collection and control system for **F0.001** (40 CFR 60.752(b)(2)(ii)).
- b. Maintain and operate a control system for **F0.001**. The control system shall be an open flare, as described in Section VI.N. (**System 05, S2.010**) of this Operating Permit (40 CFR 60.752(b)(2)(iii)(A)).

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

- a. The maximum allowable landfill design capacity will not exceed 42.5 million Megagrams (46,848,200 tons) of solid waste.
- b. **F0.001** will only receive municipal solid waste (MSW), RCRA Subtitle D wastes, and other wastes as defined in 40 CFR 60.751.
- c. **F0.001** may also receive other wastes as approved by the local authority and the NDEP Bureau of Waste Management.
- d. **F0.001** shall be a **No Co-Disposal** facility and will not accept any hazardous wastes.
- e. Hours: **F0.001** may operate up to 8,760 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits

On and after the date of startup of **F0.001**, Permittee will not discharge or cause the discharge into the atmosphere from **F0.001**, the following pollutants in excess of the following specified limits:

- a. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **F0.001** will not equal or exceed 20% in accordance with NAC 445B.22017.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring

The Permittee, upon the issuance date of this Operating Permit and while in operation of **System 01** will maintain, in a contemporaneous log, the following monitoring and recordkeeping:

- a. The calendar date of any required monitoring.
- b. Monitor and record the amount of solid waste accepted, in Megagrams (Mg), on a monthly basis.
- c. Monitor and record the amount of solid waste accepted, in Megagrams (Mg), on a yearly basis, as the sum of the monthly amount of solid waste accepted for the 12 immediately preceding calendar months.



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program

40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills

(40 CFR 60.750 et. seq.)

a. Standards for Air Emissions from MSW Landfills (40 CFR 60.752)

(1) The Permittee shall maintain the LFG collection system in accordance with 5.a(1)(i) below:

(1) An *active* collection system shall (40 CFR 60.752(b)(2)(ii)(A)):

(a) 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.

(b) 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: 5 years or more if active; or 2 years or more if closed or at final grade.

(c) Collect gas at a sufficient extraction rate.

(d) Be designed to minimize off-site migration of subsurface gas.

(2) The Permittee shall route all the collected gas to a control system that complies with the requirements in 5.a(2)(i) below:

(i) An open flare designed and operated in accordance with 40 CFR 60.18, except as provided in 40 CFR 60.754(e). (40 CFR 60.752(b)(2)(iii)(A))

(3) Operate the collection and control device installed to comply with this subpart in accordance with the provisions of 40 CFR 60.753, 60.755 and 60.756 (40 CFR 60.752(b)(2)(iv)).

(4) The collection and control system may be capped or removed provided that all of the following conditions are met (40 CFR 60.752(b)(2)(v)):

(i) The landfill shall be a closed landfill as defined in 40 CFR 60.751 of this subpart. A closure report shall be submitted to the Administrator as provided in 40 CFR 60.757(d);

(ii) The collection and control system shall have been in operation a minimum of 15 years; and

(iii) Following the procedures specified in 40 CFR 60.754(b) of this subpart, 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.

(5) When a MSW landfill subject to this subpart is closed, the owner or operator is no longer subject to the requirement to maintain an operating permit under Part 70 or 71 of this chapter for the landfill if the landfill is not otherwise subject to the requirements of either Part 70 or 71 and if either of the following conditions are met (40 CFR 60.752(d)):

(i) The landfill was never subject to the requirement for a control system under A.1.a of this section; or

(ii) The owner or operator meets the conditions for control system removal specified in A.5.a(4) of this section.



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program

40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills

(40 CFR 60.750 et. seq.)(continued)

b. Operational Standards for Collection and Control Systems (40 CFR 60.753)

Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of 40 CFR 60.752(b)(2)(ii) shall:

- (1) 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 (40 CFR 60.753(a)):
 - (i) 5 years or more if active; or
 - (ii) 2 years or more if closed or at final grade.
- (2) Operate the collection system with negative pressure at each wellhead except under the following conditions (40 CFR 60.753(b)):
 - (i) 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 annual reports as provided in 40 CFR 60.757(f)(1);
 - (ii) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;
 - (iii) 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.
- (3) 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 (40 CFR 60.753(c)).
 - (i) 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) of 40 CFR Part 60, Subpart WWW.
 - (ii) Unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C 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.
- (4) 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 and 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-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing (40 CFR 60.753(d)).



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program

40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
(40 CFR 60.750 et. seq.) (continued)

b. Operational Standards for Collection and Control Systems (40 CFR 60.753) (continued)

- (5) 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). 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; and (40 CFR 60.753(e))
- (6) Operate the control or treatment system at all times when the collected gas is routed to the system (40 CFR 60.753(f)).
- (7) If monitoring demonstrates that the operational requirements in paragraphs A.5.b(2), (3), or (4) of this section are not met, corrective action shall be taken as specified in A.5.d(3) through (5) or A.5.d(8) of this section. If corrective actions are taken as specified in A.5.d., the monitored exceedance is not a violation of the operational requirements in this section (40 CFR 753(g)).

c. Test Methods and Procedures (40 CFR 60.754)

- (1) After the installation of a collection and control system in compliance with 40 CFR 60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in A.5.a(4) of this section, using the following equation (40 CFR 60.754(b)):

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

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.

- (i) The flow rate of landfill gas, Q_{LFG} , 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 appendix A of this part.
 - (ii) The average NMOC concentration, C_{NMOC} , 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 appendix A of this part. If using Method 18 of appendix A of this part, 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 appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.
 - (iii) 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.
- (2) When calculating emissions for PSD purposes, the owner or operator of each MSW landfill subject to the provisions of this subpart shall estimate the NMOC emission rate for comparison to the PSD major source and significance levels in 40 CFR 51.166 or 52.21 of this chapter using AP-42 or other approved measurement procedures (40 CFR 60.754(c)).



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
 (40 CFR 60.750 et. seq.)(continued)

c. Test Methods and Procedures (40 CFR 60.754) (continued)

(3) 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 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 40 CFR 60.18(f)(4). (40 CFR 60.754(e))

d. Compliance Provisions (40 CFR 60.755)

(1) Except as provided in 40 CFR 60.752(b)(2)(i)(B), the Permittee shall use the following specified methods to determine whether the gas collection system is in compliance with the provisions in A.5.a(1) of this section:

For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with A.5.a(1)(i)(a) of this section, 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 (40 CFR 755(a)(1)).

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

$$Q_m = 2L_o R (e^{-kc} - e^{-kt})$$

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 = 0 and e^{-kc} = 1)



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
 (40 CFR 60.750 et. seq.)(continued)

d. Compliance Provisions (40 CFR 60.755) (continued)

(1) (continued)

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

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

where,

- Q_M = maximum expected gas generation flow rate, cubic meters per year.
 k = methane generation rate constant, year⁻¹.
 M_i = mass of solid waste in the i^{th} section, megagrams.
 t_i = age of the i^{th} section, years.
 L_o = methane generation potential, cubic meters per megagram solid waste.

- (iii) 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.5.d(1)(i) and (ii) of this section. 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.5.d(1)(i) and (ii) 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.
- (2) For the purposes of determining sufficient density of gas collectors for compliance with A.5.a(1)(i)(b) of this section 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 (40 CFR 60.755(a)(2)).
- (3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with A.5.a(1)(i)(c) of this section, 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). 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 exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval (40 CFR 60.755(a)(3)).
- (4) Owners or operators are not required to expand the system as required in paragraph A.5.d(3) above during the first 180 days after gas collection system startup (40 CFR 60.755(a)(4)).



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
(40 CFR 60.750 et. seq.)(continued)

d. Compliance Provisions (40 CFR 60.755) (continued)

- (5) 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). 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 exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval (40 CFR 60.755(a)(5)).
- (6) An owner or operator seeking to demonstrate compliance with A.5.a(1)(i)(d) through the use of a collection system not conforming to the specifications provided in A.5.h of this section 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)(6)).
- (7) For purposes of compliance with A.5.b(1) of this section, 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 (40 CFR 60.755(b)):
 - (i) 5 years or more if active; or
 - (ii) 2 years or more if closed or at final grade.
- (8) For compliance with the surface methane operational standard, as provided in A.5.b(4) of this section, Permittee will use the procedures specified in 40 CFR 60.755(c)(1) through (5).
- (9) Each owner or operator seeking to comply with the provisions in A.5.d(8) above, Permittee shall follow the instrumentation specifications and procedures for surface emission monitoring devices as set forth in 40 CFR 60.755(d)(1) through (4).
- (10) The provisions of 40 CFR Part 60, Subpart WWW 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 for treatment or control devices (40 CFR 60.755(e)).



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A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
(40 CFR 60.750 et. seq.)(continued)

e. Monitoring of Operations (40 CFR 60.756)

Except as provided in 40 CFR 60.752(b)(2)(i)(B),

- (1) Each owner or operator seeking to comply with A.5.a(1)(i) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and (40 CFR 60.756(a)):
 - (i) Measure the gauge pressure in the gas collection header on a monthly basis as provided in A.5.d(3); and
 - (ii) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in A.5.d(5); and
 - (iii) Monitor temperature of the landfill gas on a monthly basis as provided in A.5.d(5).
- (2) Each owner or operator seeking to comply with A.5.a(2) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment (40 CFR 60.756(c)):
 - (i) 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.
 - (ii) A device that records flow to or bypass of the flare. The owner or operator shall either:
 - (a) 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
 - (b) 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.
- (3) Each owner or operator seeking to install a collection system that does not meet the specifications in A.5.h of this section, or seeking to monitor alternative parameters to those required by A.5.b through A.5.e of this section, 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)).
- (4) Each owner or operator seeking to demonstrate compliance with A.5.d(8) of this section, shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in A.5.d(9) of this section. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring (40 CFR 60.756(f)).



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A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program

40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills

(40 CFR 60.750 et. seq.)(continued)

f. Reporting Requirements (40 CFR 60.757)

- (1) Each owner or operator of a controlled landfill 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 in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4). (40 CFR 60.757(d))
- (2) Each owner or operator of a controlled landfill shall submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment (40 CFR 60.757(e)).
 - (i) The equipment removal report shall contain all of the following items:
 - (a) A copy of the closure report submitted in accordance with paragraph A.5.f(1) of this section;
 - (b) A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and
 - (c) 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.
 - (ii) The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in A.5.a(4) of this section have been met.
- (3) Each owner or operator of a landfill seeking to comply with 40 CFR 60.752(b)(2) using an active collection system designed in accordance with A.5.a(1) of this section shall submit to the Administrator annual reports of the recorded information in A.5.f(3)(i) through (vi) below. The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under 40 CFR 60.8. For enclosed combustion devices and flares, reportable exceedances are defined under A.5.g(3) of this section (40 CFR 60.757(f)).
 - (i) Value and length of time for exceedance of applicable parameters monitored under A.5.e(1) through (2) of this section.
 - (ii) 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 A.5.e of this section.
 - (iii) 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.
 - (iv) All periods when the collection system was not operating in excess of 5 days.
 - (v) The location of each exceedance of the 500 parts per million methane concentration as provided in A.5.b(4) of this section and the concentration recorded at each location for which an exceedance was recorded in the previous month.
 - (vi) The date of installation and the location of each well or collection system expansion added pursuant to paragraphs A.5.d(3), A.5.d(7) of this section, and 40 CFR 60.755(c)(4).



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
(40 CFR 60.750 et. seq.)(continued)
 - f. Reporting Requirements (40 CFR 60.757) (continued)
 - (4) Each owner or operator seeking to comply with A.5.a(2) of this section shall include the following information with the initial performance test report required under 40 CFR 60.8 (40 CFR 60.757(g)):
 - (i) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;
 - (ii) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;
 - (iii) The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material;
 - (iv) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area; and
 - (v) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and
 - (vi) The provisions for the control of off-site migration.
 - g. Recordkeeping Requirements (40 CFR 60.758)
 - (1) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of 40 CFR 60.752(b) shall 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), 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 (40 CFR 60.758(a)).
 - (2) Except as provided in § 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs (b)(1) through (b)(4) of 40 CFR 60.758 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)).
 - (3) Except as provided in § 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill subject to the provisions of this subpart shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in A.5.e of this section, 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, as set forth in 40 CFR 60.758(c)(1) through (4). (40 CFR 60.758(c)).
 - (4) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall 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, including the installation date of any newly-installed collectors, and areas excluded from collection (40 CFR 758(d), (d)(1), and (d)(2)).



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program

40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills

(40 CFR 60.750 et. seq.)(continued)

g. Recordkeeping Requirements (40 CFR 60.758)(continued)

(5) Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator subject to the provisions of 40 CFR Part 60, Subpart WWW, 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 A.5.b of this section, 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)).

h. Specifications for Active Collection Systems (40 CFR 60.759)

(1) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(i) 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 Administrator as provided in 40 CFR 60.752(b)(2)(i)(C) and (D): (40 CFR 759(a))

- (i) 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.
- (ii) The sufficient density of gas collection devices determined in A.5.h(1)(i) above 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.
- (iii) The placement of gas collection devices determined in A.5.h(1)(i) above shall control all gas producing areas, except as provided by paragraphs A.5.h(1)(iii)(a) and (b) below:
 - (a) Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under A.5.g(4) of this section. The documentation shall provide the nature, date of deposition, location and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the Administrator upon request.
 - (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:



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
 (40 CFR 60.750 et. seq.)(continued)

- h. Specifications for Active Collection Systems (40 CFR 60.759)(continued)
 (1)(iii)(b)(continued)

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

where,

Q_i = NMOC emission rate from the i^{th} 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 i^{th} section, megagram

t_i = age of the solid waste in the i^{th} 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 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 non-degradable material is documented as provided in paragraph A.5.h(1)(iii)(a) of this section.
- (2) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(i)(A) shall construct the gas collection devices using the equipment or procedures set forth in 40 CFR 60.759(b)(1) through (3). (40 CFR 60.759(b))
- (3) Each owner or operator seeking to comply with 40 CFR 60.752(b)(2)(i)(A) shall convey the landfill gas to a control system in compliance with A.5.a(2) of this section through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures (40 CFR 60.759(c)):
- (i) For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in (3)(ii) below shall be used.
- (ii) For new collection systems, the maximum flow rate shall be in accordance with 40 CFR 60.755(a)(1).



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

6. NAC 445B.3405 (NAC 445B.316) Part 70 Program

40 CFR Part 63, Subpart AAAA – NESHAP for Municipal Solid Waste Landfills (40 CFR 63.1930 et. seq.)

- a. Permittee must comply with the requirements of 40 CFR part 60, subpart WWW (40 CFR 63.1955(a)(1)).
- b. If you are required by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan to install a collection and control system, you must comply with the requirements in 40 CFR 63.1960 through 63.1985 and with the general provisions of this part specified in Table 1 of 40 CFR Part 63, Subpart AAAA (40 CFR 63.1955(b)).
- c. 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 part 60 Subpart WWW or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the Startup, Shutdown, Malfunction (SSM) requirements in Subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), 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(c)).
- d. Compliance is determined in the same way it is determined for 40 CFR Part 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 A.5.e(2)(i), A.5.e(3)(i), and A.5.e(4) of this section, 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). 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).
- e. For the purposes of the landfill monitoring and SSM plan requirements, deviations include the items in paragraphs A.6.e(1) through (3) below (40 CFR 63.1965):
 - (1) A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) of Subpart WWW are exceeded.
 - (2) 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. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.
 - (3) A deviation occurs when a SSM plan is not developed or maintained on site.
- f. Averages 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 here are not to be included in any average computed under this subpart: Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments; Startups; Shutdowns; and Malfunctions (40 CFR 63.1975).
- g. Keep records and reports as specified in 40 CFR Part 60, Subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR Part 60, Subpart Cc, whichever applies to your landfill, with one exception: You must submit the annual report described in A.5.f(3) of this section every 6 months (40 CFR 63.1980(a)).
- h. You must also keep records and reports as specified in the general provisions of 40 CFR Part 60 and 40 CFR Part 63 as shown in Table 1 of this 40 CFR Part 63, Subpart AAAA. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports (40 CFR 63.1980(b)).



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Section VI. Specific Operating Conditions (continued)

A. Emission Unit F0.001 (continued)

7. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring

Permittee, upon the issuance date of this Operating Permit and while in operation of **F0.001** will:

- a. Monitor and record the weight of accepted solid waste (in megagrams, Mg) on a monthly basis, at the end of each calendar month.
- b. Monitor and record the weight of accepted solid waste (in megagrams, Mg) on a yearly basis as the sum of the monthly totals for the 12 immediately preceding calendar months.

8. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in A.7 above, so as to include the calendar date of the required monitoring.
- b. Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative (40 CFR 60.7(b)).

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Section VI. Specific Operating Conditions (continued)

B. Emission Unit PF1.001 Location North 4,374.279 km, East 274.865 km, UTM (Zone 11, NAD 83)

System 02A – Wood Chipping Circuit – Wood Chipper Loading (REVISED MONTH, XX, 2017)

PF1.001 | Material Transfer by Loader to Tub Grinder (Wood Chipper)

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
PF1.001 has no add-on controls.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of waste wood in PF1.001 will not exceed 60 tons per hour.
 - b. PF1.001 may operate a maximum of 10 hours per day, between the hours of 6:00 am through 6:00 pm.
 - c. PF1.001 may operate up to 2,650 hours per calendar year.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of PF1.001, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.013 pound per hour, nor more than 0.017 ton per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.006 pound per hour, nor more than 0.008 ton per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 46.3 pound per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from PF1.001 will not equal or exceed 20% in accordance with NAC 445B.22017.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of PF1.001, Permittee will:
 - a. Monitor and record the daily throughput of waste wood, in tons, for PF1.001.
 - b. Monitor and record the daily hours of operation for PF1.001.
 - c. Monitor and record the daily average hourly throughput of waste wood, in tons per hour, using the monitoring in B.4.a. and B.4.b. above.
 - d. Monitor and record the hours of operation for PF1.001 at the end of the calendar year.
5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in B.4. above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

C. Emission Unit PF1.002 Location North 4,374.279 km, East 274.865 km, UTM (Zone 11, NAD 83)

System 02B – Wood Chipping Circuit – Wood Chipper (REVISED MONTH, XX, 2017)

PF1.002	Wood Chipper (Tub Grinder)
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
Emissions from **PF1.002** shall be controlled by water sprays at **PF1.002**.

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of waste wood in **PF1.002** will not exceed 60 tons per hour.
 - b. **PF1.002** may operate a maximum of 10 hours per day, **between the hours of 6:00 am through 6:00 pm.**
 - c. **PF1.002** may operate up to 2,650 hours per calendar year.
 - d. Permittee may replace **PF1.002** with a contractor-supplied Wood Chipper (Tub Grinder). Operation of the contractor-supplied Wood Chipper must not exceed the operating parameters in C.2.a, C.2.b, and C.2.c above.
 - e. Permittee must operate the contractor-supplied Wood Chipper in accordance with the emission limits in C.3.a through C.3.d below.
 - f. Permittee must operate the contractor-supplied Wood Chipper in accordance with the monitoring, recordkeeping, and reporting in C.4, C.5, and C.6 of this section.
 - g. Each time a contractor-supplied Wood Chipper is constructed and operated at the Lockwood Regional Landfill, Permittee must provide notifications and perform initial performance tests in accordance with Sections II and IIA., respectively, of this Operating Permit.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.002**, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 5.25 pounds per hour, nor more than 6.96 tons per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 3.00 pounds per hour, nor more than 3.98 tons per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 46.3 pounds per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.002** will not equal or exceed 20% in accordance with NAC 445B.22017.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.002**, Permittee will:
 - a. Monitor and record the daily throughput of waste wood, in tons, for **PF1.002**.
 - b. Monitor and record the daily hours of operation for **PF1.002**.
 - c. Monitor and record the daily average hourly throughput of waste wood, in tons per hour, using the monitoring in C.4.a and C.4.b above.
 - d. Monitor and record the hours of operation for **PF1.002** at the end of the calendar year.



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Section VI. Specific Operating Conditions (continued)

C. Emission Unit PF1.002 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in C.4. above, so as to include the calendar date of the required monitoring.

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Section VI. Specific Operating Conditions (continued)

D. Emission Units PF1.003 and PF1.004 Location North 4,374.279 km, East 274.865 km, UTM (Zone 11, NAD 83)

System 02C – Wood Chipping Circuit – Wood Chipper Discharge (REVISED MONTH, XX, 2017)	
PF1.003	Wood Chipper Transfer to Conveyor (Phase 1 Belt)
PF1.004	Conveyor (Phase 1 Belt) to Conveyor (Phase 2 Belt)

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
PF1.003 and PF1.004 have no add-on controls.

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of waste wood in **PF1.003 and PF1.004**, each, will not exceed 60 tons per hour.
 - b. **PF1.003 and PF1.004**, each, may operate a maximum of 10 hours per day, between the hours of 6:00 am through 6:00 pm.
 - c. **PF1.003 and PF1.004**, each, may operate up to 2,650 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.003 and PF1.004**, Permittee will not discharge or cause the discharge into the atmosphere from **PF1.003 and PF1.004**, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.18 pound per hour, nor more than 0.239 ton per year, each.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.066 pound per hour, nor more than 0.087 ton per year, each.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 46.3 pounds per hour, each, in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.003 and PF1.004**, each, will not equal or exceed 20% in accordance with NAC 445B.22017.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.003 and PF1.004**, Permittee will:
 - a. Monitor and record the daily throughput of waste wood, in tons, for **PF1.003 and PF1.004**, each.
 - b. Monitor and record the daily hours of operation for **PF1.003 and PF1.004**, each.
 - c. For **PF1.003 and PF1.004**, each, monitor and record the daily average hourly throughput of waste wood, in tons per hour, using the monitoring in D.4.a. and D.4.b. above.
 - d. Monitor and record the hours of operation for **PF1.003 and PF1.004**, each, at the end of the calendar year.

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in D.4. above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

E. Emission Unit PF1.005 Location North 4,374.279 km, East 274.865 km, UTM (Zone 11, NAD 83)

System 02D – Wood Chipping Circuit – Stockpile (REVISED MONTH, XX, 2017)

PF1.005	Conveyor (Phase 2 Belt) to Stockpile for Trailer Discharge
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
Emissions from **PF1.005** shall be controlled by water sprays at **PF1.005**.

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of waste wood in **PF1.005** will not exceed 60 tons per hour.
 - b. **PF1.005** may operate a maximum of 10 hours per day, between the hours of 6:00 am through 6:00 pm.
 - c. **PF1.005** may operate up to 2,650 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.005**, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.045 pound per hour, nor more than 0.06 ton per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.017 pound per hour, nor more than 0.022 ton per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 46.3 pounds per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.005** will not equal or exceed 20% in accordance with NAC 445B.22017.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.005**, Permittee will:
 - a. Monitor and record the daily throughput of waste wood, in tons, for **PF1.005**.
 - b. Monitor and record the daily hours of operation for **PF1.005**.
 - c. Monitor and record the daily average hourly throughput of waste wood, in tons per hour, using the monitoring in E.4.a and E.4.b above.
 - d. Monitor and record the hours of operation for **PF1.005** at the end of the calendar year.

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in E.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

F. Emission Unit S2.001 Location North 4,374.445 km, East 274.997 km, UTM (Zone 11, NAD 83)

System 02E – Wood Chipping Circuit – 750 HP Diesel Engine (REVISED MONTH, XX, 2017)

S2.001	750 HP Diesel Engine (2.52 MMBtu/hr)
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
S2.001 has no add-on controls.

Descriptive Stack Parameters

Stack Height (ft): 5.5
Stack Diameter (ft): 0.83
Stack Temperature (°F): 864
Stack Exit Velocity (ft/s): 125
Exhaust Flow (ACFM): 4,058

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters

- a. The maximum allowable fuel usage rate will not exceed 18 gallons per hour of diesel fuel.
- b. S2.001 may operate a maximum of 10 hours per day, between the hours of 6:00 am through 6:00 pm.
- c. S2.001 may operate up to 1,300 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits

On and after the date of startup of S2.001, Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.001, the following pollutants in excess of the following specified limits:

- a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.18 pound per hour, nor more than 0.11 ton per year.
- b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.14 pound per hour, nor more than 0.09 ton per year.
- c. NAC 445B.2203 Federally Enforceable SIP Requirement – Not Applicable to combustion units with heat input less than 4 million Btu per hour.
- d. NAC 445B.22047 Federally Enforceable SIP Requirement - The discharge of sulfur to the atmosphere will not exceed 1.76 pound per hour in accordance with NAC 445B.22047.
- e. NAC 445B.305 Part 70 Program - The discharge of SO₂ (sulfur dioxide) to the atmosphere will not exceed 1.27 pound per hour, nor more than 0.83 ton per year.
- f. NAC 445B.305 Part 70 Program - The discharge of NO_x (nitrogen oxides) to the atmosphere will not exceed 8.06 pound per hour, nor more than 5.24 ton per year.
- g. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 2.14 pound per hour, nor more than 1.39 ton per year.
- h. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.23 pound per hour, nor more than 0.15 ton per year.
- i. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from the S2.001 stack discharge will not equal or exceed 20% in accordance with NAC 445B.22017.



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Section VI. Specific Operating Conditions (continued)

F. Emission Unit S2.001 (continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits (continued)

- j. Standards of Performance (NSPS) for Stationary Compression Ignition Internal Combustion Engines
40 CFR Part 60, Subpart IIII (40 CFR 60.4200 et. seq.) - Permittee will comply with all applicable requirements set forth in 40 CFR Part 60, Subpart IIII.
- k. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories
NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ
(40 CFR 63.6580, et. seq.) – Permittee will comply with all applicable requirements set forth in 40 CFR Part 63, Subpart ZZZZ.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring

On and after the date of startup of **S2.001**, Permittee will:

- a. Monitor and record the consumption of diesel fuel in **S2.001**, in gallons, on a daily basis.
- b. Monitor and record the hours of operation for **S2.001** during each day of operation.
- c. Monitor and record the average hourly fuel consumption rate, using the monitoring in F.4.a and F.4.b above, for each day of operation.
- d. Monitor and record the hours of operation for **S2.001** at the end of the calendar year.

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in F.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

G. Emission Unit PF1.006 Location North 4,374.246 km, East 276.463 km, UTM (Zone 11, NAD 83)

System 03A – Asphalt Grinding Circuit – Loading Coleman Power Unit

PF1.006 Material Transfer by Loader to Coleman Power Unit and transfer to Conveyor (Phase 1 Belt), Equip. No. 900642

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
PF1.006 has no add-on controls.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of asphalt wastes in PF1.006 will not exceed 110 tons per hour.
 - b. PF1.006 may operate a maximum of 8 hours per day.
 - c. PF1.006 may operate up to 2,120 hours per calendar year.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of PF1.006, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.023 pound per hour, nor more than 0.024 ton per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.011 pound per hour, nor more than 0.012 ton per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 52.2 pound per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from PF1.006 will not equal or exceed 20% in accordance with NAC 445B.22017.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of PF1.006, Permittee will:
 - a. Monitor and record the daily throughput of asphalt waste, in tons, for PF1.006.
 - b. Monitor and record the daily hours of operation for PF1.006.
 - c. Monitor and record the daily average hourly throughput of asphalt wastes, in tons per hour, using the monitoring in G.4.a. and G.4.b. above.
 - d. Monitor and record the hours of operation for PF1.006 at the end of the calendar year.
5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in G.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

H. Emission Unit PF1.007 Location North 4,374.246 km, East 276.463 km, UTM (Zone 11, NAD 83)

System 03B – Asphalt Grinding Circuit – Asphalt Grinder Loading

PF1.007	Conveyor (Phase 1 Belt) and transfer to Asphalt Grinder, Equip. No. 900642
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
Emissions from **PF1.007** shall be controlled by water sprays located at **PF1.007**.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of asphalt waste in **PF1.007** will not exceed 110 tons per hour.
 - b. **PF1.007** may operate a maximum of 10 hours per day.
 - c. **PF1.007** may operate up to 2,120 hours per calendar year.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.007**, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.082 pound per hour, nor more than 0.088 ton per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.030 pound per hour, nor more than 0.032 ton per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 52.2 pound per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.007** will not equal or exceed 20% in accordance with NAC 445B.22017.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.007**, Permittee will:
 - a. Monitor and record the daily throughput of asphalt waste, in tons, for **PF1.007**.
 - b. Monitor and record the daily hours of operation for **PF1.007**.
 - c. Monitor and record the daily average hourly throughput of asphalt waste, in tons per hour, using the monitoring in H.4.a and H.4.b above.
 - d. Monitor and record the hours of operation for **PF1.007** at the end of the calendar year.
5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in H.4. above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

I. Emission Unit PF1.008 Location North 4,374.246 km, East 276.463 km, UTM (Zone 11, NAD 83)

System 03C – Asphalt Grinding Circuit – Asphalt Grinder	
PF1.008	Asphalt Grinder (Hazemag); Model APSE1013Q, SN FABSM1013K (1999)

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
Emissions from **PF1.008** shall be controlled by water sprays at **PF1.008**.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of asphalt wastes in **PF1.008** will not exceed 110 tons per hour.
 - b. **PF1.008** may operate a maximum of 8 hours per day.
 - c. **PF1.008** may operate up to 2,120 hours per calendar year.
 - d. Permittee may replace **PF1.008** with a contractor-supplied Asphalt Grinder. Operation of the contractor-supplied Asphalt Grinder must not exceed the operating parameters in I.2.a, I.2.b, and I.2.c above.
 - e. Permittee must operate the contractor-supplied Asphalt Grinder in accordance with the emission limits in I.3.a through I.3.d below.
 - f. Permittee must operate the contractor-supplied Asphalt Grinder in accordance with the monitoring, recordkeeping, and reporting in I.4, I.5, and I.6 of this section.
 - g. Each time a contractor-supplied Asphalt Grinder is constructed and operated at the Lockwood Regional Landfill, Permittee must provide notification of startup of the replacement Asphalt Grinder to the BAPC within 15 days of startup, and also perform an initial 6-minute (24 consecutive readings at 15-second intervals) opacity test, using EPA Method 9, within 180 days after initial startup. Permittee will furnish the Director a written report of the results of the opacity observations in accordance with NAC 445B.252.8.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.008**, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.149 pound per hour, nor more than 0.157 ton per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.066 pound per hour, nor more than 0.07 ton per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 52.2 pound per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.008** will not equal or exceed 20% in accordance with NAC 445B.22017.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.008**, Permittee will:
 - a. Monitor and record the daily throughput of asphalt wastes, in tons, for **PF1.008**.
 - b. Monitor and record the daily hours of operation for **PF1.008**.
 - c. Monitor and record the daily average hourly throughput of asphalt waste, in tons per hour, using the monitoring in I.4.a and I.4.b above.



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Section VI. Specific Operating Conditions (continued)

I. Emission Unit PF1.008 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in I.4 above, so as to include the calendar date of the required monitoring.

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Section VI. Specific Operating Conditions (continued)

J. Emission Unit PF1.009 Location North 4,374.246 km, East 276.463 km, UTM (Zone 11, NAD 83)

System 03D – Asphalt Grinding Circuit – Fines Stockpile

PF1.009	Fines Conveyor and transfer Fine Materials to Stockpile
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
PF1.009 has no add-on controls.

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of asphalt wastes in **PF1.009** will not exceed 110 tons per hour.
 - b. **PF1.009** may operate a maximum of 8 hours per day.
 - c. **PF1.009** may operate up to 2,120 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.009**, Permittee will not discharge or cause the discharge into the atmosphere from **PF1.009**, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.33 pound per hour, nor more than 0.35 ton per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.121 pound per hour, nor more than 0.128 ton per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 52.2 pound per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.009** will not equal or exceed 20% in accordance with NAC 445B.22017.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.009**, Permittee will:
 - a. Monitor and record the daily throughput of asphalt wastes, in tons, for **PF1.009**.
 - b. Monitor and record the daily hours of operation for **PF1.009**.
 - c. Monitor and record the daily average hourly throughput of asphalt wastes, in tons per hour, using the monitoring in J.4.a and J.4.b above.
 - d. Monitor and record the hours of operation for **PF1.009** at the end of the calendar year.

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in J.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

K. Emission Unit PF1.010 Location North 4,374.246 km, East 276.463 km, UTM (Zone 11, NAD 83)

System 03E – Asphalt Grinding Circuit – Asphalt Stockpile

PF1.010	Conveyor (Phase 2 Belt) and transfer to Asphalt Materials to Stockpile
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
Emissions from **PF1.010** shall be controlled by water sprays at **PF1.010**.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable throughput of waste wood in **PF1.010** will not exceed 110 tons per hour.
 - b. **PF1.010** may operate a maximum of 8 hours per day.
 - c. **PF1.010** may operate up to 2,120 hours per calendar year.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.010**, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.082 pound per hour, nor more than 0.088 ton per year.
 - b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.030 pound per hour, nor more than 0.032 ton per year.
 - c. NAC 445B.22033 Federally Enforceable SIP Requirement – The maximum allowable discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 46.3 pounds per hour in accordance with NAC 445B.22033.
 - d. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.002** will not equal or exceed 20% in accordance with NAC 445B.22017.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.010**, Permittee will:
 - a. Monitor and record the daily throughput of waste wood, in tons, for **PF1.010**.
 - b. Monitor and record the daily hours of operation for **PF1.010**.
 - c. Monitor and record the daily average hourly throughput of waste wood, in tons per hour, using the monitoring in K.4.a and K.4.b above.
 - d. Monitor and record the hours of operation for **PF1.010** at the end of the calendar year.
5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in K.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

L. Emission Unit S2.002 Location North 4,375.306 km, East 276.369 km, UTM (Zone 11, NAD 83)

System 03F – Asphalt Grinding Circuit – 519 HP Diesel Engine	
S2.002	519 HP Diesel Engine; Caterpillar 3406, Manu. 1999, SN 4ZR05076 (1.82 MMBtu/hr)

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Air Pollution Control Equipment

S2.002 has no add-on controls.

Descriptive Stack Parameters

Stack Height (ft): 6

Stack Diameter (ft): 0.67

Stack Temperature (°F): 864

Stack Exit Velocity (ft/s): 135

Exhaust Flow (ACFM): 2,856

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

a. The maximum allowable fuel usage rate will not exceed 13 gallons per hour of diesel fuel.

b. **S2.002** may operate a maximum of 8 hours per day.

c. **S2.002** may operate up to 800 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits

On and after the date of startup of **S2.002**, Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of **S2.002**, the following pollutants in excess of the following specified limits:

a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.56 pound per hour, nor more than 0.23 ton per year.

b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.56 pound per hour, nor more than 0.23 ton per year.

c. NAC 445B.2203 Federally Enforceable SIP Requirement – Not Applicable to combustion units with heat input less than 4 million Btu per hour.

d. NAC 445B.22047 Federally Enforceable SIP Requirement - The discharge of sulfur to the atmosphere will not exceed 1.27 pounds per hour in accordance with NAC 445B.22047.

e. NAC 445B.305 Part 70 Program - The discharge of SO₂ (sulfur dioxide) to the atmosphere will not exceed 0.53 pound per hour, nor more than 0.21 ton per year.

f. NAC 445B.305 Part 70 Program - The discharge of NO_x (nitrogen oxides) to the atmosphere will not exceed 8.03 pound per hour, nor more than 3.21 ton per year.

g. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 1.73 pound per hour, nor more than 0.69 ton per year.

h. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.66 pound per hour, nor more than 0.26 ton per year.

i. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from the **S2.002** stack discharge will not equal or exceed 20% in accordance with NAC 445B.22017.



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Section VI. Specific Operating Conditions (continued)

L. Emission Unit S2.002 (continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits (continued)

j. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories
NESHAP for *Stationary Reciprocating Internal Combustion Engines (RICE)*, 40 CFR Part 63, Subpart ZZZZ
(40 CFR 63.6580, et. seq.) – Permittee will comply with all applicable requirements set forth in 40 CFR Part 63, Subpart ZZZZ.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring

On and after the date of startup of **S2.002**, Permittee will:

- a. Monitor and record the consumption of diesel fuel in **S2.002**, in gallons, on a daily basis.
- b. Monitor and record the hours of operation for **S2.002** during each day of operation.
- c. Monitor and record the average hourly fuel consumption rate, using the monitoring in L.4.a and L.4.b above, for each day of operation.
- d. Monitor and record the hours of operation for **S2.002** at the end of the calendar year.

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in L.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

M. Emission Unit PF1.011 Location North 4,374.863 km, East 275.368 km, UTM (Zone 11, NAD 83)

System 04 – Petroleum Contaminated Soil (PCS)

PF1.011	Petroleum Contaminated Soil (PCS) Storage and Disposal
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
Emissions from **PF1.011** are uncontrolled.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. The maximum allowable combined weight of treated and untreated, Petroleum Contaminated Soil (PCS) that is used as landfill cover material, stockpiled, or otherwise disposed of at the Lockwood Regional Landfill will not exceed 50,000 tons per 12-month rolling period. “Treated” PCS is defined as PCS that is removed from a bioremediation treatment cell to be used as landfill cover, stockpiling, or disposal in the landfill.
 - b. The maximum allowable concentration of volatile organic compounds (VOC) in treated, or untreated, PCS that will be used as landfill cover, stockpiled, or otherwise disposed of at the Lockwood Regional Landfill will not exceed 300 parts-per-million by weight (ppmw).
 - c. Permittee may operate **PF1.011** up to 8,760 hours per calendar year.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.011**, Permittee will not discharge or cause the discharge into the atmosphere, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 15.0 tons per 12-month rolling period for treated and untreated petroleum-contaminated soils.
 - b. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.011** will not equal or exceed 20% in accordance with NAC 445B.22017.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.011**, Permittee will:
 - a. Monitor and record the weight, in tons, for each load of treated and untreated PCS that is used as landfill cover, stockpiled, or otherwise disposed of at the Lockwood Regional Landfill.
 - b. Obtain a representative composite sample and analysis of the VOC concentration for each load treated PCS to be used as landfill cover, stockpiled, or otherwise disposed of at the Lockwood Regional Landfill. The VOC concentration shall be expressed in parts-per-million by weight (ppmw).
 - c. Use standard profiling procedure for petroleum-contaminated soils, as set forth in the most current version of the *Section 5 – Solid Waste/Special Waste Handling, Operational Plan Refuse, Inc., Soil Containing Petroleum Residue or Petroleum Contaminated Soils*, prepared in support of BWM solid waste permit SW214R01, for each customer project containing untreated PCS to be used as landfill cover, stockpiled, or otherwise disposed of at the Lockwood Regional Landfill.
 - d. Ensure that the analyses for VOC are performed using EPA Method 8260B, or another appropriate test method or procedure as approved in advance by the Director.
 - e. Monitor and record the total VOC emissions from treated and untreated PCS, as described in M.4.a above, using the monitored weight and VOC concentration.



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Section VI. Specific Operating Conditions (continued)

M. Emission Unit PF1.011 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in M.4 above, so as to include the calendar date of the required monitoring.

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Section VI. Specific Operating Conditions (continued)

N. Emission Unit S2.010 Location North 4,374.726 km, East 274.754 km, UTM (Zone 11, NAD 83)

System 05 – Candlestick Flare (REVISED MONTH, XX, 2017)
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S2.010	Perennial Candlestick Flare (63.0 MMBtu/hr); Model FL-10-C; SN FL-1587; Manu. 2008
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Air Pollution Control Equipment

Emissions **S2.010** are uncontrolled. **S2.010** functions as the primary control device for landfill gas (LFG) collected at the Lockwood Regional Landfill, in accordance with VI.A.1.b of this Operating Permit.

Descriptive Stack Parameters (typical conditions)

Stack Height (ft): **58**

Inside Diameter (ft): 0.83

Temperature (°F): 1,360

Velocity (ft/sec): 10.25

LFG Input (SCFH): 126,000

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

- a. The maximum allowable heat input rate for **S2.010** will not exceed 63.0 million Btu per any one hour period.
- b. **S2.010** may operate up to 8,760 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits

On and after the date of startup of **S2.010**, Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of **S2.010**, the following pollutants in excess of the following specified limits:

- a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 2.10 pounds per hour, nor more than 9.20 tons per 12-months rolling period.
- b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 2.10 pounds per hour, nor more than 9.20 tons per 12-months rolling period.
- c. NAC 445B.2203 Federally Enforceable SIP Requirement - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.39 pound per million Btu in accordance with NAC 445B.2203.
- d. NAC 445B.22047 Federally Enforceable SIP Requirement - The discharge of sulfur to the atmosphere will not exceed 44.1 pounds per hour in accordance with NAC 445B.22047.
- e. NAC 445B.305 Part 70 Program - The discharge of SO₂ (sulfur dioxide) to the atmosphere will not exceed 19.77 pounds per hour, nor more than 86.60 tons per 12-months rolling period.
- f. NAC 445B.305 Part 70 Program - The discharge of NO_x (nitrogen oxides) to the atmosphere will not exceed 4.41 pounds per hour, nor more than 19.32 tons per 12-month rolling period.
- g. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 23.31 pounds per hour, nor more than 102.10 tons per 12-months rolling period.
- h. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.46 pound per hour, nor more than 2.00 tons per 12-month rolling period.
- i. NAC 445B.305 Part 70 Program - The discharge of H₂S (hydrogen sulfide) to the atmosphere will not exceed 0.112 pound per hour, nor more than 0.488 ton per 12-month rolling period.
- j. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **S2.010** will not equal or exceed 20% in accordance with NAC 445B.22017.



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CLASS I AIR QUALITY OPERATING PERMIT

Issued to: Refuse, Inc. – Lockwood Regional Landfill (as Permittee)

Section VI. Specific Operating Conditions (continued)

N. Emission Unit S2.010 (continued)

4. 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750 et. seq.)
 - a. **S2.010** shall be designed and operated in accordance with the *General Control Device and Work Practice Requirements* for flares, 40 CFR 60.18(c) through 60.18(f), except as otherwise provided in N.4.d below (40 CFR 60.752(b)(2)(iii)(A)).
 - b. Operate the system such that all collected gases are vented to a control system, **S2.010**, designed and operated in compliance with 40 CFR 60.752(b)(2)(iii). 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 (40 CFR 60.753(e)).
 - c. Operate the control or treatment system at all times when the collected gas is routed to the system (40 CFR 60.753(f)).
 - d. The net heating value of the combusted landfill gas as determined in 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 40 CFR 60.18(f)(4). (40 CFR 60.754(e))
 - e. For **S2.010**, Permittee shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, the following equipment (40 CFR 60.756(c)):
 - (1) 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.
 - (2) A device that records flow to or bypass of **S2.010**. Permittee shall either:
 - (i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to **S2.010** at least every 15 minutes; or
 - (ii) 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.
 - f. Except as provided in 40 CFR 60.752(b)(2)(i)(B), each owner or operator (Permittee) of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in N.4.g below 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)).
 - g. Where an owner or operator (Permittee) subject to the provisions of 40 CFR Part 60, Subpart WWW seeks to demonstrate compliance with 40 CFR 60.752(b)(2)(iii)(A) through the use of an open flare (**S2.010**), the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emissions 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 (40 CFR 60.758(b)(4)).



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Section VI. Specific Operating Conditions (continued)

N. Emission Unit S2.010 (continued)

4. 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750 et. seq.) (continued)
 - h. Except as provided in 40 CFR 60.752(b)(2)(i)B, each owner or operator (Permittee) of a controlled landfill subject to the provisions of 40 CFR Part 60, Subpart WWW 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 (i.e., N.4.e(1) and (2) above) 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 (40 CFR 60.758(c)).
 - i. Each owner or operator (Permittee) seeking to comply with the provisions of 40 CFR Part 60, Subpart WWW by use of an open flare (**S2.010**) shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under N.4.e(1) above, 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)(4)).
 - j. Each owner or operator (Permittee) subject to the provisions of 40 CFR Part 60, Subpart WWW shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device (**S2.010**) 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 N.4.e(2) above (40 CFR 60.758(c)(2)).

5. 40 CFR Part 63, Subpart AAAA – NESHAP for Municipal Solid Waste Landfills (40 CFR 63.1930 et. seq.)
Permittee shall comply with all applicable requirements in VI.A.6 of this operating permit.

6. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of issuance of this operating permit, Permittee will:
 - a. Monitor and record the methane content of the landfill gas (LFG) routed to **S2.010**, on a monthly basis, using a properly-calibrated and maintained field instrument.
 - b. Monitor and record the net heating value (in Btu/SCF) of the LFG routed to **S2.010** on a monthly basis (ref: N.4.d).
 - c. Monitor and record the monthly cumulative volume of LFG (in SCF) routed to **S2.010**, using a properly-calibrated and maintained flow monitoring/recording device (ref: N.4.e(2)).
 - d. Monitor and record the monthly hours of operation of **S2.010** for the corresponding month.
 - e. Monitor and record the average hourly heat input rate in MMBtu/hr for **S2.010** on a monthly basis. The average hourly heat input rate will be determined from the total monthly heat input and the total monthly hours of operation.

7. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in N.6 above, so as to include the calendar date of the required monitoring.
 - b. Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative (40 CFR 60.7(b)).



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Section VI. Specific Operating Conditions (continued)

N. Emission Unit S2.010 (continued)

8. NAC 445B.3405 (NAC 445B.316) Part 70 Program Reporting

The Permittee will:

- a. Comply with all applicable requirements for reporting, as set forth in A.5.f of this section.

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CLASS I AIR QUALITY OPERATING PERMIT

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Section VI. Specific Operating Conditions (continued)

O. Emission Units S2.011 and S2.012

S2.011 Location North 4,374.790 km, East 274.669 km, UTM (Zone 11, NAD 83)

S2.012 Location North 4,374.794 km, East 274.667 km, UTM (Zone 11, NAD 83)

System 06A – Landfill Gas (LFG) Internal Combustion Engines (ADDED MONTH, XX, 2017)

Table with 2 columns: Emission Unit ID and Description. Row 1: S2.011 Caterpillar Internal Combustion Engine (LFG) 2,233 HP; Model G3520C, SN GZJ00488, Manu. 2010. Row 2: S2.012 Caterpillar Internal Combustion Engine (LFG) 2,233 HP; Model G3520C, SN GZJ00489, Manu. 2010.

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Air Pollution Control Equipment

S2.011 and S2.012 have no add-on controls.

Descriptive Stack Parameters (S2.011 & S2.012)

Stack Height (ft): 37.7

Stack Diameter (ft): 1.29

Stack Temperature (°F): 898

Exhaust Flow (ACFM): 12,939

Exhaust Flow (DSCFM): 4,307

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

- a. S2.011 and S2.012 may combust treated landfill gas (LFG) only. Treated LFG, for the purposes of this Operating Permit, shall be defined as landfill gas that is filtered, dewatered, and compressed prior to its combustion in S2.011 and S2.012.
b. The sulfur content of treated landfill gas combusted in S2.011 and S2.012 shall not exceed 500 parts-per-million by volume (ppmv) as hydrogen sulfide, H2S.
c. The maximum individual operating heat input rate for S2.011 and S2.012, each, shall not exceed 17.82 million Btu (MMBtu) per hour.
d. On or before the date of startup of S2.011 and S2.012, or any replacement engine, the Permittee will install, calibrate, operate, and maintain a gas flow measuring device that continuously measures the amount of landfill gas (in SCF) combusted in S2.011 and S2.012.
e. S2.011 and S2.012, each, may operate up to 8,760 hours per calendar year.
f. The Permittee may replace each of the engines S2.011 and S2.012 with a new or overhauled engine. Operation of each replacement engine must comply with the following requirements:
(1) Any replacement engine will be a Caterpillar G3520C engine, with a maximum rating of 2,233 HP.
(2) Exhaust emissions from any replacement engine will not exceed the limits in O.3 below.
(3) The Permittee shall operate the replacement engines according to the provisions in O.2.a through O.2.d above.
(4) The Permittee will comply with all monitoring, recordkeeping, testing schedules, and reporting requirements specified in this Operating Permit for any replacement engine.
(5) The Permittee will comply with all provisions of 40 CFR Part 60, Subpart JJJJ, as set forth in O.7 and O.8 of this Operating Permit for any replacement engine.
(6) The Permittee will not operate any replacement engine until the Director receives formal notification from the Permittee that the engine being replaced has been decommissioned and removed from the Lockwood Regional Landfill engine plant building.
(7) The Permittee will provide to the Director the manufacturer-supplied serial number for any replacement engine within 30 days after initial startup of the replacement engines.



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Section VI. Specific Operating Conditions (continued)

O. Emission Units S2.011 and S2.012 (continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits

On and after the date of startup of S2.011 and S2.012, the Permittee shall not discharge or cause the discharge into the atmosphere from the exhaust stacks of S2.011 and S2.012, each, the following pollutants in excess of the following specified limits:

- a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.49 pound per hour, nor more than 2.16 tons per 12-month rolling period.
- b. NAC 445B.305 Part 70 Program - The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.49 pound per hour, nor more than 2.16 tons per 12-month rolling period.
- c. NAC 445B.2203 Federally Enforceable SIP Requirement – The discharge of PM₁₀ (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.52 pound per million Btu.
- d. NAC 445B.22047 Federally Enforceable SIP Requirement - The discharge of sulfur to the atmosphere will not exceed 12.5 pounds per hour.
- e. NAC 445B.305 Part 70 Program - The discharge of SO₂ (sulfur dioxide) to the atmosphere will not exceed 2.93 pounds per hour, nor more than 12.85 tons per 12-month rolling period.
- f. NAC 445B.305 Part 70 Program - The discharge of NO_x (nitrogen oxides) to the atmosphere will not exceed 2.95 pounds per hour, nor more than 12.94 tons per 12-month rolling period.
- g. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 19.20 pounds per hour, nor more than 65.00 tons per 12-month rolling period.
- h. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.85 pound per hour, nor more than 3.74 tons per 12-month rolling period.
- i. NAC 445B.305 Part 70 Program - The discharge of H₂S (hydrogen sulfide) to the atmosphere will not exceed 0.22 pound per hour, nor more than 0.96 ton per 12-month rolling period.
- j. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from the S2.011 and S2.012 stack discharges, each, will not equal or exceed 20% in accordance with NAC 445B.22017.
- k. New Source Performance Standards (NSPS) – Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE) (40 CFR Part 60, Subpart JJJJ, 40 CFR 60.4230 et. seq.).
 - (1) The discharge of NO_x to the atmosphere will not exceed 2.0 g/HP-hr (or 150 ppmvd @ 15% O₂)(40 CFR 60.4233(e), Table 1 for landfill/digester gas engines, greater than or equal to 500 HP, manufactured after July 1, 2010).
 - (1) The discharge of CO to the atmosphere will not exceed 5.0 g/HP-hr (or 610 ppmvd @ 15% O₂)(40 CFR 60.4233(e), Table 1 for landfill/digester gas engines, greater than or equal to 500 HP, manufactured after July 1, 2010).
 - (2) The discharge of VOC will not exceed 1.0 g/HP-hr (or 80 ppmvd @ 15% O₂)(40 CFR 60.4233(e), Table 1 for landfill/digester gas engines, greater than or equal to 500 HP, manufactured after July 1, 2010).
- l. National Emission Standards for Hazardous Air Pollutants (NESHAP) – Stationary Reciprocating Internal Combustion Engines (RICE) (40 CFR Part 63, Subpart ZZZZ, 40 CFR 63.6580 et. seq.) – New or Reconstructed stationary RICE located at an Area Source (40 CFR 6509(c)(1)). If the spark ignition engine meets the requirements of 40 CFR Part 60 Subpart JJJJ, 40 CFR Part 63 Subpart ZZZZ requirements are also met (40 CFR 63.6590(c)).



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Section VI. Specific Operating Conditions (continued)

O. Emission Units S2.011 and S2.012 (continued)

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Performance Testing

- a. The Permittee shall conduct renewal compliance testing at least 90 days prior to the expiration of this Operating Permit, but no earlier than 365 days from the date of expiration of this Operating Permit, and every 5 years thereafter, in accordance with the following:
- (1) All compliance tests must comply with the advance notification, protocol review, operational conditions, reporting, and other requirements of Section I.S and I.T Testing and Sampling (NAC 445B.252) of this Operating Permit.
 - (2) Testing shall be conducted on the exhaust stack (post controls), and shall consist of three valid runs.
 - (3) Method 5 in Appendix A of 40 CFR Part 60 shall be used to determine Particulate Matter (PM) emissions. The sample volume for each test run shall be at least 1.7 dscm (60 dscf). Test runs must be conducted for up to two hours in an effort to collect this minimum sample.
 - (4) Method 201A and Method 202 in Appendix M of 40 CFR Part 51 shall be used to determine PM₁₀ emissions. The sample time and sample volume collected for each test run shall be sufficient to collect enough mass to weigh accurately.
 - (5) The Method 201A and 202 test required in this section may be replaced by a Method 5 in Appendix A of 40 CFR Part 60 and Method 202 in Appendix M of 40 CFR Part 51 test. All particulate captured in the Method 5 and Method 202 test performed under this provision shall be considered PM₁₀ for determination of compliance.
 - (6) Method 7E in Appendix A of 40 CFR Part 60 shall be used to determine the Nitrogen Oxides concentration. Each test will be run for a minimum of 1-hour.
 - (7) Method 10 in Appendix A of 40 CFR Part 60 shall be used to determine the Carbon Monoxide concentration. Each test will be run for a minimum of 1-hour.
 - (8) Method 25A in Appendix A of 40 CFR Part 60 shall be used to determine the Volatile Organic Compound concentration. Method 18 in Appendix A of 40 CFR Part 60 or Method 320 in Appendix A of CFR Part 63 may be used in conjunction with Method 25A to break out the organic compounds that are not considered Volatile Organic Compounds by definition per 40 CFR 51.100(s). Each Method 25A test will be run for a minimum of 1-hour.
 - (9) Testing to determine compliance with the hourly Sulfur Dioxide emission limit set forth in O.3 of this section, will consist of sampling and analysis of the treated landfill gas (LFG) for total sulfur (as H₂S). The LFG shall be sampled from a location downstream of the LFG treatment system, but before combustion in **S2.011 and S2.012**. The sampling and analysis of total sulfur in the LFG sample shall be done in accordance with Methods 15/16 in Appendix A of 40 CFR Part 60. The results of sampling and analysis shall be recorded as the mass of total sulfur per unit volume of treated LFG. The Sulfur Dioxide emission rate, in pounds per hour (lb/hr), shall be determined assuming that all sulfur in the LFG sample is converted to Sulfur Dioxide.
- b. In addition to the renewal compliance testing required under 4.a above of this section, the Permittee shall determine compliance with the hourly emission limits set forth in O.3 of this section for NO_x and CO after the restart of **S2.011 and S2.012** following a top-end overhaul. This shall occur no later than 3 months following a top-end overhaul, or on an alternate date contingent on approval by the Director. The testing shall be done in accordance with the methods and procedures described in O.4.a.(6) and O.4.a.(7) of this section.



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Section VI. Specific Operating Conditions (continued)

O. Emission Units S2.011 and S2.012 (continued)

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring

The Permittee, upon issuance of this operating permit shall:

- a. On an hourly basis, monitor and record the combined volume (in SCF) of treated landfill gas (LFG) combusted in **S2.011 and S2.012**, for each day of operation.
- b. On an hourly basis, monitor and record the total gross power output for **S2.011 and S2.012**, combined, for each day of operation.
- c. On an hourly basis, monitor and record the gross power output for **S2.011 and S2.012**, each, for each day of operation.
- d. On an hourly basis, monitor and record the lower heating value (LHV) of LFG combusted in **S2.011 and S2.012**, for each day of operation.
- e. Calculate and record the volume of LFG combusted in each of the engines **S2.011 and S2.012**, using the following formula:

$$\text{LFG Volume for Engine N (SCF)} = \text{Total Volume of LFG (SCF)} \times (\text{Power Output for Engine N} / \text{Total Gross Power Output})$$

- f. For each hour of operation, calculate and record the heat input (in MMBtu) for each of the engines **S2.011 and S2.012**, using the hourly volume (in SCF) of landfill gas combusted and the hourly LHV recorded above. The following formula will be used to calculate the heat input:

$$\text{HI (Heat Input)} = (\text{LFG combusted in SCF}) \times (\text{Measured LHV in Btu/SCF}) \times (\text{MMBtu}/10^6 \text{ Btu})$$

- g. Monitor and record the hours of operation for **S2.011 and S2.012**, each, for each day of operation.
- h. On a calendar annual basis after the date of issuance of this operating permit, Permittee will determine the total sulfur content of the LFG. The determination of the total sulfur content of the LFG shall be done in accordance with EPA Methods 15/16 in 40 CFR Part 60, Appendix A. Results of total sulfur analyses shall be recorded in parts-per-million by volume (ppmv) as hydrogen sulfide (H₂S).
- i. Conduct and record an observation of visible emissions (excluding water vapor) on the exhaust stacks of **S2.011 and S2.012**, each, on a monthly basis while operating. The observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented to their back. If visible emissions are observed, the Permittee shall conduct and record a Method 9 visible emission test. Each Method 9 visible emission test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.
- j. Permittee will calculate and record the monthly and 12-month rolling emissions of carbon monoxide (CO), in tons, at the end of each calendar month, for **S2.011 and S2.012**, each. Permittee will perform this calculation using the most recent representative performance test for CO (in pounds/hour) and the monthly hours of operation.

6. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in O.5 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

O. Emission Units S2.011 and S2.012 (continued)

7. NAC 445B.3405 (NAC 445B.316) Part 70 Program

New Source Performance Standards (NSPS) – Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE) (40 CFR Part 60, Subpart JJJJ, 40 CFR 60.4230 et. seq.).

a. If the Permittee is an owner or operator of a stationary SI internal combustion engine complying with the requirements in O.3.k of this section, you must demonstrate compliance by purchasing an engine certified according to the procedures specified in Subpart JJJJ, for the same model year and demonstrating compliance according to the following (40 CFR 60.4243(b)(1)):

- (1) If the Permittee will operate and maintain the certified stationary SI internal combustion engine and control device (if any) according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator (40 CFR 60.4243(a)(1)).
- (2) If the Permittee does not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine (which is therefore subject to Subpart JJJJ performance testing), and you must demonstrate compliance according to O.7.a.(3) below (40 CFR 60.4243(a)(2)).
- (3) If the Permittee is an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you 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. In addition, you 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)). Subpart JJJJ performance tests must be conducted according to the procedures in 40 CFR 60.4244(a) through (g), as applicable.

b. Owners and operators of all stationary SI ICE must meet the following notification, reporting, and recordkeeping requirements:

- (1) All notifications submitted to comply with Subpart JJJJ and all documentation supporting any notification (40 CFR 60.4245(a)(1)).
- (2) Maintenance conducted on the engine (40 CFR 60.4245(a)(2)).
- (3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable (40 CFR 60.4245(a)(3)).
- (4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to O.7.a(2) above, documentation that the engine meets the emission standards (40 CFR 60.4245(a)(4)).

c. Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards must submit an initial notification as required in 40 CFR 60.7(a)(1). The notification must include the following (40 CFR 60.4245(c)):

- (1) Name and address of the owner or operator.
- (2) The address of the affected source.
- (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement.
- (4) Emission control equipment (if any).
- (5) Fuel used.

d. Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in 40 CFR 60.4244 within 60 days after the test has been completed (40 CFR 60.4245(d)).



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Section VI. Specific Operating Conditions (continued)

O. Emission Units S2.011 and S2.012 (continued)

8. NAC 445B.3405 (NAC 445B.316) Part 70 Program

National emission Standards for Hazardous Air Pollutants (NESHAP) – Stationary Reciprocating Internal Combustion Engines (RICE) (40 CFR Part 63, Subpart ZZZZ, 40 CFR 63.6580 et. seq.) – New or Reconstructed stationary RICE located at an Area Source (40 CFR 6509(c)(1)). If the spark ignition engine meets the requirements of 40 CFR Part 60 Subpart JJJJ, 40 CFR Part 63 Subpart ZZZZ requirements are also met (40 CFR 63.6590(c)).

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Section VI. Specific Operating Conditions (continued)

P. Emission Units S2.015 and S2.016

S2.015 Location North XXXX.XXX km, East XXX.XXX km, UTM (Zone 11, NAD 83)

S2.016 Location North XXXX.XXX km, East XXX.XXX km, UTM (Zone 11, NAD 83)

System 06B – RESERVED

S2.015	RESERVED
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S2.016	RESERVED
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Section VI. Specific Operating Conditions (continued)

Q. Emission Unit S2.013 Location North 4,375.202 km, East 274.786 km, UTM (Zone 11, NAD 83)

System 07A – Emergency Propane Generator

S2.013 Katolite Propane Generator (25 kW, 34 HP); Model SEL25FGG4; SN 133319-1006, Manu. August 2006, SI 4SRB

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Air Pollution Control Equipment

S2.013 has no add-on controls.

Descriptive Stack Parameters

Stack Height (ft): 3

Stack Diameter (ft): 0.2

Stack Temperature (°F): 1,269

Exhaust Flow (ACFM): 139

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

a. S2.013 may operate up to 24 hours per day.

b. S2.013 may not operate in excess of 52 hours per calendar year.

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits

On and after the date of startup of S2.013 Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.013, the following pollutants in excess of the following specified limits:

a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.02 pound per hour, nor more than 0.0006 ton per year.

b. NAC 445B.305 Part 70 Program - The discharge of PM10 (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.02 pound per hour, nor more than 0.0006 ton per year.

c. NAC 445B.2203 Federally Enforceable SIP Requirement - Not applicable to combustion units with heat input less than 4 million Btu per hour.

d. NAC 445B.22047 Federally Enforceable SIP Requirement - The discharge of sulfur to the atmosphere will not exceed 0.28 pound per hour in accordance with NAC 445B.22047.

e. NAC 445B.305 Part 70 Program - The discharge of SO2 (sulfur dioxide) to the atmosphere will not exceed 0.0015 pound per hour, nor more than 0.00004 ton per year.

f. NAC 445B.305 Part 70 Program - The discharge of NOx (nitrogen oxides) to the atmosphere will not exceed 0.6 pound per hour, nor more than 0.02 ton per year.

g. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 0.55 pound per hour, nor more than 0.01 ton per year.

h. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.36 pound per hour, nor more than 0.009 ton per year.

i. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from the S2.013 stack discharge will not equal or exceed 20% in accordance with NAC 445B.22017.



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Section VI. Specific Operating Conditions (continued)

Q. Emission Unit S2.013 (continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits (continued)

- j. Standards of Performance (NSPS) for Stationary Spark Ignition Internal Combustion Engines
40 CFR Part 60, Subpart JJJJ (40 CFR 60.4230 et. seq.) - Permittee will comply with all applicable requirements set forth in 40 CFR Part 60, Subpart JJJJ.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring

On and after the date of startup of **S2.013**, Permittee will:

- a. Monitor and record the hours of operation for each day of operation.
b. Monitor and record the hours of operation at the end of the calendar year.

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in Q.4 above, so as to include the calendar date of the required monitoring.

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Section VI. Specific Operating Conditions (continued)

R. Emission Unit S2.014 Location North 4,374.880 km, East 274,671 km, UTM (Zone 11, NAD 83)

System 07B – 16 HP Gasoline Pump

S2.014 Kohler Gasoline Pump (16 HP); Model M16PS; SN 3219800609, Manu. May 2004, SI 4SRB

- 1. NAC 445B.3405 (NAC 445B.316) Part 70 Program Air Pollution Control Equipment S2.014 has no add-on controls.

Descriptive Stack Parameters

Stack Height (ft): 6
Stack Diameter (ft): 0.2
Stack Temperature (°F): 899
Exhaust Flow (ACFM): 208

- 2. NAC 445B.3405 (NAC 445B.316) Part 70 Program Operating Parameters

- a. The maximum allowable gasoline combustion rate for S2.014 will not exceed 0.97 gallon per hour.
b. S2.014 may operate up to 8 hours per day.
c. S2.014 may operate up to 2,500 hours per calendar year.

- 3. NAC 445B.3405 (NAC 445B.316) Part 70 Program Emission Limits

On and after the date of startup of S2.014, Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stacks of S2.014, the following pollutants in excess of the following specified limits:

- a. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 0.01 pound per hour, nor more than 0.01 ton per year.
b. NAC 445B.305 Part 70 Program - The discharge of PM10 (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.01 pound per hour, nor more than 0.01 ton per year.
c. NAC 445B.2203 Federally Enforceable SIP Requirement - Not applicable to combustion units with heat input less than 4 million Btu per hour.
d. NAC 445B.22047 Federally Enforceable SIP Requirement - The discharge of sulfur to the atmosphere from S2.014 will not exceed 0.15 pound per hour in accordance with NAC 445B.22047.
e. NAC 445B.305 Part 70 Program - The discharge of SO2 (sulfur dioxide) to the atmosphere will not exceed 0.01 pound per hour, nor more than 0.01 ton per year.
f. NAC 445B.305 Part 70 Program - The discharge of NOx (nitrogen oxides) to the atmosphere will not exceed 0.18 pounds per hour, nor more than 0.22 tons per year.
g. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 0.11 pound per hour, nor more than 0.14 ton per year.
h. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.34 pound per hour, nor more than 0.43 ton per year.
i. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from the stack discharges of S2.014 will not equal or exceed 20% in accordance with NAC 445B.22017.



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Section VI. Specific Operating Conditions (continued)

R. Emission Unit S2.014 (continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits (continued)

- j. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories

NESHAP for *Stationary Reciprocating Internal Combustion Engines (RICE)*, 40 CFR Part 63, Subpart ZZZZ

(40 CFR 63.6580, et. seq.) – Permittee will comply with all applicable requirements set forth in 40 CFR Part 63, Subpart ZZZZ.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring

On and after the date of startup of **S2.014**, Permittee will:

- a. Monitor and record the consumption of gasoline fuel, in gallons, for each day of operation.
- b. Monitor and record the hours of operation for each day of operation.
- c. Monitor and record the average hourly fuel consumption rate using the monitoring in R.4.a and R.4.b above for each day of operation.
- d. Monitor and record the hours of operation at the end of the calendar year.

5. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Recordkeeping

- a. Permittee will maintain, in a contemporaneous log, the monitoring required in R.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

S. Emission Unit **PF1.012** Location North 4,375.399 km, East 274.757 km, UTM (Zone 11, NAD 83)

System 08 – Gasoline Storage Tank

PF1.012	2,000-gallon Gasoline Storage Tank
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1. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Air Pollution Control Equipment
Control system consisting of submerged fill.
2. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Operating Parameters
 - a. **PF1.012** may store gasoline only.
 - b. The maximum annual gasoline throughput for **PF1.012** will not exceed 7,000 gallons per 12-month rolling period.
 - c. Hours
PF1.012 may operate up to 8,760 hours per calendar year.
3. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Emission Limits
On and after the date of startup of **PF1.012**, Permittee will not discharge or cause the discharge into the atmosphere from **PF1.012**, the following pollutants in excess of the following specified limits:
 - a. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.05 tons per 12-month rolling period.
 - b. NAC 445B.22017 Federally Enforceable SIP Requirement - The opacity from **PF1.012** will not exceed 20% in accordance with NAC 445B.22017.
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring
On and after the date of startup of **PF1.012**, Permittee will:
 - a. Monitor and record the total amount of gasoline, in gallons, loaded into, or dispensed from, **PF1.012** on an annual basis.
5. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Recordkeeping
 - a. Permittee will maintain, in a contemporaneous log, the monitoring required in S.4 above, so as to include the calendar date of the required monitoring.



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Section VI. Specific Operating Conditions (continued)

S. Emission Unit PF1.012 (continued)

6. 40 CFR Part 63, Subpart CCCCCC – NESHAP for Gasoline Dispensing Facilities (40 CFR 63.11110 et. seq.)
 - a. **PF1.012** is an existing individual affected source (40 CFR 63.11111(h), 40 CFR 63.11112(d)), with a monthly throughput of less than 10,000 gallons of gasoline (63.11111(b) and 63.11132).
 - b. You (Permittee) must, at all times, 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 Administrator 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 63.11115(a)).
 - c. You (Permittee) must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:
 - (1) Minimize gasoline spills (40 CFR 63.11116(a)(1)).
 - (2) Clean up spills as expeditiously as practicable (40 CFR 63.11116(a)(2)).
 - (3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use (40 CFR 63.11116(a)(3)).
 - (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators (40 CFR 63.11116(a)(4)).
 - d. You (Permittee) must have records available within 24 hours of a request by the Administrator to document your gasoline throughput (40 CFR 63.11116(b)).
 - e. Portable gasoline containers that meet the requirements of 40 CFR Part 59, Subpart F, are considered acceptable for compliance with S.6.c(3) above (40 CFR 63.11116(d)).

*****End of Specific Operating Conditions*****



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Section VII. Emissions Caps

A. No Emission Caps Defined.

*****End of Emissions Caps*****

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Section VIII. Surface Disturbance Conditions

A. Dust Control Plan (NRS 445B.230.6)

The Permittee may not cause or permit the construction, repair, or demolition work, or the use of unpaved or untreated areas without applying all such measures as may be required by the Director to prevent particulate matter from becoming airborne.

B. The Permittee will control fugitive dust in accordance with the dust control plan entitled “Dust Control Plan”, as submitted on July 26, 2012.

C. NAC 445B.22037

Fugitive Dust

1. The Permittee may not cause or permit the handling, transporting, or storing of any material in a manner which allows or may allow controllable particulate matter to become airborne.
2. Except as otherwise provided in subsection 4, the Permittee may not cause or permit the construction, repair, demolition, or use of unpaved or untreated areas without first putting into effect an ongoing program using the best practical methods to prevent particulate matter from becoming airborne. As used in this subsection, “best practical methods” includes, but is not limited to, paving, chemical stabilization, watering, phased construction, and revegetation.
3. Except as provided in subsection 4, the permittee may not disturb or cover 5 acres or more of land or its topsoil until the Permittee has obtained an Permit to construct for surface area disturbance to clear, excavate, or level the land or to deposit any foreign material to fill or cover the land.
4. The provisions of subsections 2 and 3 do not apply to:
 - a. Agricultural activities occurring on agricultural land; or
 - b. Surface disturbances authorized by a permit issued pursuant to NRS 519A.180 which occur on land which is not less than 5 acres or more than 20 acres.

*****End of Surface Disturbance Conditions*****



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Section IX. Schedules of Compliance

A. Not applicable.

*****End of Schedules of Compliance*****

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CLASS I AIR QUALITY OPERATING PERMIT

Issued to: Refuse, Inc. – Lockwood Regional Landfill (as Permittee)

Section X. Amendments

MONTH XX, 2017 (Air Case 7410) – Refuse, Inc. submitted a minor revision to the current operating permit on March 20, 2013, with addendums to the application received on November 28, 2016 and December 14, 2016. The revision included the following:

- Rolled-over System 06A (System 09 in OPTC) Landfill Gas (LFG) Internal Combustion Engines (S2.011 & S2.012) from the Class I Air Quality Operating Permit to Construct (OPTC) AP4953-2970 to the Class I - Title V Air Quality Operating Permit AP4953-1148.02.
- Increased System 05 Candlestick Flare (S2.010) stack height from 29 feet to 58 feet. This was requested in the addendum to the application received November 28, 2016.
- Added operating hour time restrictions to Systems 02A through 02E Wood Chipping Circuits (PF1.001-PF1.005, S2.001) to allow the facility to operate the systems between the hours of 6:00 am through 6:00 pm only. This was requested in the addendum to the application received December 14, 2016.
- Updated Section II by removing PF1.006 through PF1.012, S2.002, S2.010, S2.013, and S2.014 as these units have already been constructed.

This permit:

1. Is non-transferable. (NAC 445B.287) Part 70 Program
2. Will be posted conspicuously at or near the stationary source. (NAC 445B.318) (State Only Requirement)
3. Will expire and be subject to renewal five (5) years from December 17, 2012.
(NAC 445B.315) Part 70 Program
4. A complete application for renewal of an operating permit must be submitted to the director on the form provided by him with the appropriate fee at least 240 calendar days before the expiration date of this operating permit. (NAC 445B.323.2) Part 70 Program
5. Any party aggrieved by the Department’s decision to issue this permit may appeal to the State Environmental Commission (SEC) within ten days after the date of notice of the Department’s action. (NRS 445B.340) (State Only Requirement)

THIS PERMIT EXPIRES ON: December 17, 2017

Signature _____

Issued by: Jennifer Collier
Supervisor, Permitting Branch
Bureau of Air Pollution Control

Phone: (775) 687-9336 Date: MONTH XX, 2017



Bureau of Air Pollution Control
CLASS I Air Quality Operating Permit
NON-PERMIT EQUIPMENT LIST

Appended to Refuse, Inc., FIN A0018, Class I AQOP AP4953-1148.02

Emission Unit #	Emission Unit Description
IA1.001	1,000-gallon Diesel Fuel Tank
IA1.002	10,000-gallon U/G Diesel Fuel Tank
IA1.003	1,500-gallon Diesel Fuel Tank
IA1.004	2,000-gallon U/G Waste Oil Tank
IA1.005	605-gallon Hydraulic Oil Tank
IA1.006	200-gallon Motor Oil Tank
IA1.007	264-gallon Motor Oil Tank
IA1.008	500-gallon Used Oil Tank
IA1.009	1,500-gallon Motor Oil Tank
IA1.010	1,500-gallon Used Oil Tank
IA1.011	Citrus Solve Cleaner/Degreaser (Cold Parts Cleaners)
IA1.012	Brake Wash (non-chlorinated)
IA1.013	Petro AMSOL 120 (Mineral Spirits) (Cold Parts Cleaners)

Note: The equipment listed on this attachment are subject to all applicable requirements of the NAC and ASIP.