

**FACILITY PERMIT TO OPERATE
GLENDALE CITY, GLENDALE WATER AND POWER****Facility Description and Equipment Specific Conditions
(Section D)**

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Operate and Permits to Construct/Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the Rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE GLENDALE CITY, GLENDALE WATER AND POWER

PERMITTED EQUIPMENT LIST

The following is a list of all Permits to Operate and Permits to Construct/Operate at this facility:

Application No.	Permit No.	Equipment Description	Page No.
505048	G6898	Landfill Gas Condensate Collection, Treatment, and Storage System	5
505049	G7093	Landfill Gas Treating System	7

NOTE: Permits to Construct (if any) are listed in Section H of this facility permit. Any other applications that are still being processed and have not been issued Permits to Construct or Permits to Operate will not be found in this Title V Permit.

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FACILITY WIDE CONDITION(S)

Condition(s):

1. Except for open abrasive blasting operations, the operator shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:
 - A. As dark or darker in shade as that designated no. 1 on the Ringlemann chart, as published by the United States Bureau of Mines; or
 - B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (A) of this condition.[Rule 401]

2. The operator shall monitor, at least on a monthly basis, total sulfur compounds calculated as hydrogen sulfide burned in gaseous fuels other than natural gas. All monitoring results shall be kept and maintained for at least five years and made available to South Coast AQMD personnel upon request. This facility shall not emit total sulfur compounds equal to or greater than 5 pounds per day, calculated as hydrogen sulfide from the combustion of gaseous fuels other than natural gas. If the 5 pounds per day total sulfur compounds calculated as hydrogen sulfide limit is reached or exceeded, then the operator shall conduct the following pursuant to Rule 431.1:
 - A. The operator shall not burn sewage digester gas containing sulfur compounds in excess of 40 ppmv calculated as hydrogen sulfide averaged daily, or 40 ppmv and 500 ppmv with an averaging period of monthly and 15 minutes, respectively;
 - B. The operator shall not burn other (non-natural gas) gases containing sulfur compounds in excess of 40 ppmv calculated as hydrogen sulfide with an averaging period of 4 hours; and
 - C. The operator shall monitor the total sulfur compounds calculated as hydrogen sulfide burned in gaseous fuels pursuant to Rule 431.1(d) and follow the recordkeeping and reporting requirements pursuant to Rule 431.1(e).[Rule 204, Rule 431.1]

3. The operator shall not use fuel oil containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.
[Rule 431.2]

4. The owner or operator shall comply with all applicable contents of the addendum, mitigation measures stipulated in the statement of findings and statement of overriding considerations which are part of the certified Facilities Master Plans Program Environmental Impact Report (FMP PEIR).
[Rule 204]

5. Continuous operation of monitoring systems not subject to Rule 218, Rule 218.1, Rule 218.2, or Rule 218.3 are not required when the associated basic equipment is not in operation, or when necessary calibration, maintenance or repair activities are performed in accordance with manufacturers recommendation. The operator shall take all reasonable actions to minimize the time required to perform such activities. In no event shall any such activities exceed 96 consecutive hours for any one calibration, maintenance, or repair episode. The operator shall notify the South Coast AQMD within twenty-four (24) hours of the start of a calibration, maintenance or repair activity, if the activity is expected to last more than 24 consecutive hours.
[Rule 204]

6. The operator shall synchronize all recorders with respect to the time of day.
[Rule 204]

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7. The hydrogen sulfide (H₂S) concentration at the downwind property fence line boundary shall not exceed 0.03 ppmv as determined in accordance with state ambient air quality standards (AAQS) averaging times, or any revised AAQS which may become effective during the operation of the facility.
[Rule 204, Rule 402]

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PERMIT TO OPERATE

Permit No. G6898
A/N 505048

Equipment Description:

Landfill Gas Condensate Collection, Treatment, and Storage Collection Consisting of:

1. Oil/Solids Separator, 750 Gallon Capacity, 10 gpm with FLOC System.
2. Oil Discharge Tank, 1,110 Gallon Capacity,
3. Three (3) Influent Tanks, Condensate, Each 7'-11" Dia. X 10'-10" H., 4,000 Gallon Capacity.
4. Eight (8) Tanks, Aquaserv, Miscellaneous Chemical Additives, 105 to 165 Gallon Capacity with Associated Feed Pumps.
5. Dissolve Air Flootation (DAF) Unit, 10 gpm.
6. Stripper Feed Tank.
7. Air Stripping Tower, 1'-0" Dia. X 12'-0" H., with Exhaust blower.
8. Two (2) Activated Carbon Adsorber, Westates Carbon Company or Equivalent, Each 4'-0" Dia. x 4'-0" H.
9. Effluent Tank, 300 Gallon Capacity.
10. Carbon Cannister, 165 lbs Capacity, venting Condensate Treatment System.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. This equipment shall not be operated unless the exhaust gas from the air stripping tower is vented to the gas header to the flare station which is in full use and has a valid Permit to Operate from the South Coast AQMD.
[Rule 204]
5. Vapors from the influent tanks, oil/solids separator, oil discharge tank, DAF unit, stripper feed tank, and effluent tank shall be vented to the carbon canister.
[Rule 204]
6. The operator shall continuously monitor and record the flow rate (gallons per minute) of LFG condensate feed rate to the oil/solids separator.
[Rule 204]
7. The landfill gas condensate feed rate to the oil/solids separator shall not exceed 10 gallons per minute.
[Rule 204, 1303(b)(2) Offsets]

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8. Spent carbon from the carbon canister shall be replaced at frequencies necessary to ensure appropriate air pollution control and in accordance with the manufacturer's specifications and recommendation.
[Rule 204, 402]
9. The operator shall maintain records of each instance of media replenishment or change-out. The records shall include the date of each media replenishment or change-out and the type and amount of media replenished or replaced.
[Rule 204]
10. Spent carbon removed from the system shall be stored in closed containers prior to removal from site. Disposal of spent carbon shall be in accordance with all applicable hazardous materials rules and regulations.
[Rule 204]
11. If a distinct odor resulting from the operation of this equipment is detected at or beyond the facility property line, the operator shall investigate and determine the odor source(s) and undertake mitigation and/or remedial measures to correct the problem. Mitigation measures which are deemed appropriate by South Coast AQMD personnel as necessary to protect the comfort, repose, health, or safety of the public shall be implemented upon request.
[Rule 204, Rule 402]
12. All records required by this permit shall be retained at the facility for a minimum of five years, and shall be made available to any South Coast AQMD representative upon request.
[Rules 204, 3004(a)(4)]

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PERMIT TO OPERATE

Permit No. G7093
A/N 505049

Equipment Description:

Landfill Gas Treating System, Consisting of:

1. Two compressors, reciprocating type, each 5.0 mmscfd and 900 HP.
2. Absorber, packed column, Enviro-Scrub, 3'-0" Dia. x 20'-0" S/S H. 7,638 cfm with two circulation pumps (one standby), 30 gpm.
3. Storage Tank, Enviro-scrub, 1,000 Gallons Capacity.
4. Coalescing Knockout Drum, 2' Diameter, Maximum.
5. Air-Cooled Chilled Water/Glycol Unit, 55 Tons.
6. Economizer, Shell and Tube Type, 435,000 Btu/hr.
7. Feed Gas Chiller, Shell and Tube Type, 650,000 Btu/hr.
8. Refrigeration Knock-Out Drum, Vertical Type, 3'-0" Dia. x 7'-9" S/S H.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
3. All landfill gas (LFG) collected shall be delivered to air pollution control or treatment equipment which can adequately process the volume of gas collected and which has a valid permit from the South Coast AQMD to combust LFG.
[Rule 204]
4. The sulfur content of the LFG (as H₂S) leaving this equipment shall be determined and recorded daily during normal working hours. Daily sulfur monitoring is not required during weekend and holidays. The measurement shall be conduct using a South Coast AQMD approved instrument and/or method.
[Rule 204]
5. The operator shall continuously monitor and record the flow rate (scfm) of LFG treated by this system. In case a pressure sensor device is used in place of the flow indicator, a conversion chart shall be available to indicate the correspondent flow rate in scfm, to the pressure reading.
[Rule 204]
6. The total volume of LFG treated by this system shall not exceed 7,638 standard cubic feet per minute.
[Rule 204, Rule 1303(b)(2) Offsets]

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7. All LFG processing components under positive pressure shall be monitored for leaks on a quarterly basis and prior to scheduled maintenance or during planned outage periods or as otherwise approved in a valid Rule 1150.1 Compliance Plan using an approved Organic Vapor Analyzer (OVA). Dates, times, monitoring results, and corrective actions shall be kept and maintained on file.
[Rule 204, 1150.1]
8. This equipment shall be operated so that there are no leaks that exceed 500 ppm total organic compounds, measured as methane, at any LFG processing component under positive pressure. Any component leak must be tagged and repaired with 10 calendar days from the time of the first exceedance as applicable, or as otherwise approved in a valid Rule 1150.1 Compliance Plan.
[Rule 204, and Rule 1150.1]
9. Operation of this equipment shall not result in the release of LFG or regeneration off-gas into the atmosphere. Any breakdown or malfunction which results in emission of LFG or regeneration off-gas shall be reported to South Coast AQMD in accordance with Rule 430 provisions and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions into the atmosphere.
[Rule 402, Rule 430]
10. If a distinct odor resulting from the operation of this equipment is detected at or beyond the facility property line, the operator shall investigate and determine the odor source(s) and undertake mitigation and/or remedial measures to correct the problem. Mitigation measures which are deemed appropriate by South Coast AQMD personnel as necessary to protect the comfort, repose, health, or safety of the public shall be implemented upon request.
[Rule 204, Rule 402]
11. The operator shall maintain records of each instance of media replenishment or change-out. The records shall include the date of each media replenishment or change-out and the type and amount of media replenished or replaced.
[Rule 204]
12. All records required to demonstrate compliance with this permit shall be kept and maintained for at least five (5) years and shall be made available to South Coast AQMD personnel upon request.
[Rule 204, 3004(a)(4)]

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RULE 219 EQUIPMENT

Equipment Description:

Rule 219 Exempt Equipment, Coating Equipment, Portable Architectural Coatings:

Periodic Monitoring:

1. The operator shall keep records, in a manner approved by the South Coast AQMD, for the following parameter(s) or item(s):

For architectural applications where no thinners, reducers, or other VOC containing materials are added, maintain semi-annual records of all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/L) of material used for low-solids coatings, (c) VOC content as supplied in g/L of coating, less water and exempt solvent, for other coating.

For other architectural applications where thinner, reducers, or other VOC containing material are added, maintain daily records for each coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/L) of material used for low-solids coatings, (c) VOC content as supplied in g/L of coating, less water and exempt solvent, for other coating.

[Rule 3004(a)(4)]

Emissions and Requirements:

2. This equipment is subject to the applicable requirements of the following Rules and Regulations:
VOC: Rule 1113, See Appendix B for emissions limits
VOC: Rule 1171, See Appendix B for emissions limits

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RULE 219 EQUIPMENT

Equipment Description:

Rule 219 Exempt Equipment, Hand Wiping Operations.

Emissions and Requirements:

1. This equipment is subject to the applicable requirements of the following Rules and Regulations:
VOC: Rule 1171, See Appendix B for emissions limits

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RULE 219 EQUIPMENT

Equipment Description:

Rule 219 Exempt Equipment, Air Conditioning Units.

Emissions and Requirements:

1. This equipment is subject to the applicable requirements of the following Rules and Regulations:

VOC: Rule 1415

VOC: 40 CFR 82 Subpart F

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Permit to Construct and Temporary Permit to Operate (Section H)

This section consists of a table listing all individual Permits to Construct and temporary Permits to Operate issued to various equipment at the facility. Each permit will list operating conditions, including periodic monitoring requirements and applicable emission limits and requirements. Also included are the rule origin and authority of each emission limit and permit condition.

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PERMITTED EQUIPMENT LIST

The following is a list of all Permits to Construct and temporary Permits to Operate at this facility:

Application No.	Equipment Description	Page No.
595659	Landfill Gas to Energy System, Internal Combustion Engine, 4,183 BHP, No. 1	5
595660	Landfill Gas to Energy System, Internal Combustion Engine, 4,183 BHP, No. 2	13
595661	Landfill Gas to Energy System, Internal Combustion Engine, 4,183 BHP, No. 3	21
595662	Landfill Gas to Energy System, Internal Combustion Engine, 4,183 BHP, No. 4	29
595663	Air Pollution Control System No. 1, Oxidation Catalyst, Selective Catalytic Reduction (SCR) System	37
595664	Selective Catalytic Reduction (SCR), No.2	44
595665	Selective Catalytic Reduction (SCR), No.3	51
595666	Selective Catalytic Reduction (SCR), No.4	58
595667	Landfill Gas Treatment (Sulfur and Siloxane Removal) System	65
595669	Storage Tank, Aqueous Ammonia	68
595670	Enclosed Regeneration Gas Landfill Gas Flare, 6.85 MMBTU/hr (HHV)	70

NOTE: Equipment listed above that have no corresponding Permit to Operate number are issued Permits to Construct. The issuance or denial of their Permits to Operate is subject to engineering final review. Any other applications that are still being processed and have not been issued Permits to Construct or Permits to Operate will not be found in this Title V Permit.

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FACILITY WIDE CONDITION(S)

Conditions:

1. Except for open abrasive blasting operations, the operator shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:
 - A. As dark or darker in shade as that designated No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines; or
 - B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (A) of this condition.[Rule 401]

2. The operator shall monitor, at least on a monthly basis, total sulfur compounds calculated as hydrogen sulfide burned in gaseous fuels other than natural gas. All monitoring results shall be kept and maintained for at least five years and made available to South Coast AQMD personnel upon request. This facility shall not emit total sulfur compounds equal to or greater than 5 pounds per day, calculated as hydrogen sulfide from the combustion of gaseous fuels other than natural gas. If the 5 pounds per day total sulfur compounds calculated as hydrogen sulfide limit is reached or exceeded, then the operator shall conduct the following pursuant to Rule 431.1:
 - A. The operator shall not burn landfill gas containing sulfur compounds in excess of 150 ppmv calculated as hydrogen sulfide averaged daily;
 - B. The operator shall not burn other (non-natural gas) gases containing sulfur compounds in excess of 40 ppmv calculated as hydrogen sulfide with an averaging period of 4 hours; and
 - C. The operator shall monitor the total sulfur compounds calculated as hydrogen sulfide burned in gaseous fuels pursuant to Rule 431.1(d) and follow the recordkeeping and reporting requirements pursuant to Rule 431.1(e).[Rule 204, Rule 431.1]

3. The owner or operator shall comply with all applicable contents of the mitigation measures stipulated in the Final Environmental Impact Report (FEIR) for City of Glendale Biogas Renewable Generation Project.
[Rule 204, CA PRC CEQA]

4. Electronic Recording Device shall archive data in a secure encrypted format to non-volatile data storage. Instantaneous reading shall be recorded at a frequency of not less than once per minute. The recorder/software shall be capable of displaying and printing out plots of data within three hours of a request. Where external storage media is used it shall be replaced at a sufficient frequency to ensure that the amount of stored data is at no more than 90% of the stage capacity of the media.
[Rule 204, 3004(a)(4)]

5. Continuous operation of monitoring systems not subject to Rule 218.2, or Rule 218.3 are not required when the associated basic equipment is not in operation, or when necessary calibration, maintenance or repair activities are performed in accordance with manufacturers recommendation. The operator shall take all reasonable actions to minimize the time required to perform such activities. In no event shall any such activities exceed 96 consecutive hours for any one calibration, maintenance, or repair episode. The operator shall notify the South Coast AQMD within twenty-four (24) hours of the start of a calibration, maintenance or repair activity, if the activity is expected to last more than 24 consecutive hours.
[Rule 204]

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6. The operator shall synchronize all recorders with respect to the time of day.
[Rule 204]

7. The hydrogen sulfide (H₂S) concentration at the downwind property fence line boundary shall not exceed 0.03 ppmv as determined in accordance with state ambient air quality standards (AAQS) averaging times, or any revised AAQS which may become effective during the operation of the facility.
[Rule 204, Rule 402]

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PERMIT TO CONSTRUCT

A/N 595659
Granted as of: TBD

Equipment Description:

Landfill Gas to Energy System No. 1 consisting of:

1. Pretreated Landfill Gas (LFG) Supply Line.
2. Internal Combustion Engine, No. 1, GE Jenbacher, Model J620 GS-F21, Landfill Gas and Natural Gas Fueled, Non-Emergency, Four Cycle, Twenty Cylinders, Lean Burn, Turbocharged and intercooled, rate at 4,183 bhp, driving an Electric Generator with a Gross Output of 3.03 MW.
3. Engine exhaust system vented to one Air Pollution Control System No. 1 (under Application No. 595663 or subsequent).

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. This engine shall be operated in compliance with all applicable provisions of Rule 218.2, Rule 218.3, Rule 431.1, Rule 1110.2, Rule 1150.1, NSPS 40 CFR Part 60 Subpart JJJJ, and NESHAP 40 CFR Part 63 Subpart ZZZZ.
[Rule 204, 218.2, 218.3, 431.1, 1110.2, 1150.1, 40 CFR part 60 Subparts JJJJ, CFR 40 Part 63 Subparts ZZZZ]
5. This equipment shall not be operated unless its exhaust is vented to an air pollution control system which is in operation in accordance with the air pollution control system's valid Permit to Construct or Operate issued by the South Coast AQMD.
[Rule 204]
6. This equipment shall be fueled on landfill gas (LFG) only or LFG with natural gas augmentation (landfill gas/natural gas blend).
[Rule 204]
7. A continuous flow indicating and recording device shall be installed in the LFG Supply Line and Natural Gas Supply Line to the engine to measure and record the volumetric flow rate of LFG and Natural Gas, respectively, (in standard cubic feet per minute) being supplied to each engine. The recording device shall be capable of recording gas flow at least every 15 minutes.
[Rule 204, 1150.1]
8. The total heat input rate for the fuel burned in this engine shall not exceed 26.34 MMBtu per hour (HHV), as rated at standard temperature and pressure. The operator shall maintain an electronic data acquisition system or

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other electronic log to record the average hourly LFG flow rate and Natural Gas flow rate based on readings taken every 15-minute interval. The high heating value (HHV) of the LFG shall be analyzed and recorded at least once per week. The total heat input rate (MMBtu per hour) shall be calculated based on the average hourly flow rate of LFG and natural gas, and the HHV of the LFG and natural gas.
 [Rule 1303(b)(1), 1303(b)(2) Offset]

9. Gas quality parameters, including but not limited to LFG HHV and methane percent, shall be analyzed and recorded using an instrument and/or method approved by the South Coast AQMD.
 [Rule 204]
10. The facility monthly average landfill gas usage by the engine shall be 90% or more, based on the higher heating value of the fuels used. The calculation of the monthly facility biogas use percentage may exclude natural gas fired during: any electrical outage at the facility; and a Stage 2 or higher electrical emergencies called by the California Independent System Operator Corporation.
 [Rule 1110.2]
11. The emissions from this engine (inclusive of the associated air pollution control system) shall not exceed the following limits, except during periods of engine start-up, until sufficient operating temperatures are reached for proper operation of the emission control equipment or for the tuning of the engine and/or emission control equipment and an engine shutdown period. The start-up and shutdown periods shall not exceed 30 minutes.

Pollutant	Emission Limit
Volatile Organic Compounds (VOC)	30 ppmv@15% O2 Dry
Oxides of Nitrogen (NOx)	11 ppmv@15% O2 Dry
Carbon Monoxide (CO)	250 ppmv@15% O2 Dry

NOx and CO emissions shall be averaged over a fixed-interval of one hour for engines equipped with a continuous emissions monitoring system. VOC shall be averaged over the sampling time required by the test method.
 [Rule 1110.2]

12. This equipment shall reduce non-methane organic compounds (NMOC) by at least 98 percent by weight or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen.
 [Rule 1150.1, 40 CFR part 62 Subpart F, 40 CFR part 63 subpart AAAA]
13. This equipment shall reduce the outlet methane concentration to less than 3000 ppmv, dry basis, corrected to 15 percent oxygen.
 [Rule 1150.1]
14. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the engine exhaust concentration for NOx and O2, on a dry basis. In addition, the system shall convert the actual NOx concentration to a corrected NOx concentration at 15% O2 and continuously record the stack NOx concentration at 15% O2. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
 [Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]

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15. The operator shall apply for, obtain, and maintain a valid Inspection and Maintenance Plan (I&M) Plan or shall install, operate, and maintain a continuous emission monitoring system (CEMS) that measures the engine exhaust concentration for CO, on a dry basis. If a CEMS for CO is installed, the system shall convert the actual CO concentration to a corrected CO concentration at 15% O₂ and continuously record the stack CO concentration at 15% O₂. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
[Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]
16. This engine shall be operated in compliance with all applicable monitoring, testing, recordkeeping, and reporting requirements of Rule 1110.2 (f)(1), including but not limited to:
- A. The operator shall install and maintain an operational non-resettable totalizing time meter on the engine (display reading shall be readily available) to determine the engine elapsed operating time.
- B. Conduct source testing for NO_x, VOC, reported as carbon, and CO concentration in ppm by volume, corrected to 15% oxygen on dry basis, at least once every two years, or every 8,760 operating hours, whichever occurs first. Relative accuracy tests required by Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS. The Source test frequency may be reduced to once every three years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a source test is due, the source test shall be conducted by the end of seven consecutive days or 15 cumulative days of resumed operation.
- Conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load, or the maximum load that can be practically achieved during the test, and; at actual minimum load, excluding idle, or the minimum load that can be practically achieved during the test.
- The operator shall use only a source test contractor that is approved by the Executive Officer under the South Coast AQMD Laboratory approval program (LAP) for the necessary test methods. The operator shall comply with the procedures stated in Rule 1110.2 (f)(1)(C)(iv) through (vii), regarding the submittal of source test protocol, source test reports and utilities for sampling and testing equipment.
- C. Maintain a monthly operating engine log that includes:
- i. Total hours of operation,
 - ii. Type of gaseous fuel,
 - iii. Fuel consumption (standard cubic feet of gas, and MMBtu), and
 - iv. Cumulative hours of operation since the last source test required in subparagraph (f)(1)(C) of Rule 1110.2.
- The log shall be made available upon request.
- D. The operator shall comply with the reporting requirements of Rule 1110.2 (f)(1)(H)(i) through (iii), pertaining to any equipment breakdown that results in emissions in excess of rule or permit emissions limits.
[Rule, 204, 1110.2]

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17. An adequate number of sampling port(s) and welded nipples with caps with safe access shall be installed and maintained at the inlet gas line(s) to the engine to allow the collection of each fuel gas (landfill gas and landfill gas/natural gas blend, as applicable) for samples in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217, 431.1, 1150.1]
18. An adequate number of sampling ports shall be maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g., elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
19. Operation of this equipment shall not result in the release of LFG into the atmosphere. Any breakdown or malfunction which results in emissions of LFG shall be reported to the South Coast AQMD in accordance with Rule 430 provisions and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions into the atmosphere.
[Rule 204, 402, 430, 1150.1]
20. The owner or operator of the CEMS shall notify the South Coast AQMD by calling 1-800-CUT-SMOG if the concentration level and/or emission rate, as applicable, is in excess of the emission limit(s) within 24 hours or the next working day after such occurrence.
[Rule 204, 218.2]
21. The operator shall comply with Rule 218.2 CEMS failure and/or shutdown requirements. Pursuant to Rule 218.2, a notification shall be submitted for CEMS failure and/or shutdown exceeding 24 hours. Shutdown events shall not exceed 96 hours, except as extended pursuant to Rule 218.2, as applicable. The operator shall log the time, date, duration, cause of the CEMS failure, description of the occurrence, and description of any corrective action taken for each failure and/or shutdown event, and report to the South Coast AQMD in accordance Rule 218.2, as applicable.
[Rule 204, 218.2]
22. As applicable pursuant to Rule 218.2, in the event of a scheduled shutdown of the CEMS, the operator shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 96 hours prior to the scheduled CEMS shutdown, submit a written report to South Coast AQMD within 24 hours of CEMS shutdown indicating that the engine is non-operational and there are no emissions during the period of engine shutdown, and shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 8 hours prior to the scheduled CEMS restart.
[Rule 204, 218.2]
23. As applicable pursuant to Rule 218.2, in the event that the engine does not operate for a minimum of 168 consecutive hours, as demonstrated pursuant to the provisions of Rule 218.2(e)(4), the owner or operator of the CEMS shall not be subject to Rule 218.2(e)(1) after zero emissions have been recorded for a minimum of 4 hours after the engine shutdown, provided that the owner or operator: maintains the CEMS operation pursuant to Rule 218.2(e)(1) to record zero emissions for a minimum of 4 hours after the engine shutdown, submits the notifications and report in accordance with Rule 218.2(i)(4), resumes CEMS operation and meet the requirements of Rule 218.2(e)(1) for a minimum of 4 hours before the engine resumes operation or at which time any emissions are generated; and conducts a calibration error test for each CEMS analyzer before any emissions are detected.
[Rule 204, 218.2]

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24. The owner or operator shall conduct a source test within 180 days of initial start-up of this equipment operated with each fuel type, unless otherwise approved in writing by South Coast AQMD. The initial source tests shall be performed when the engine is operating at maximum, minimum, and average loads each for fuel landfill gas and landfill gas/natural gas blend and as indicated below, unless otherwise approved in writing by South Coast AQMD. Thereafter, subsequent source tests shall be performed in accordance with Rule 1110.2 and Rule 1150.1 as indicated below, in as-found operating conditions.
- A. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) for the necessary test methods and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - B. Sampling facilities shall comply with South Coast AQMD "Guidelines for Construction of Sampling and Testing Facilities" pursuant to Rule 217.
 - C. The LAP contractor shall not conduct any pre-tests for compliance.
 - D. Pursuant to Rule 1150.1, the operator shall conduct source testing as follows, or pursuant to a valid and approved Rule 1150.1 Compliance Plan:
 - i. The operator shall conduct source testing for NMOC as hexane and methane annually. Subsequent annual source tests shall be conducted no later than 45 days after the anniversary date of the initial source test. The initial source test shall be submitted to South Coast AQMD no later than 180 days after start-up and each succeeding complete annual source test report no later than 45 days after the anniversary date of the initial source test.
 - E. Pursuant to Rule 1110.2(f)(1), the operator shall conduct source testing as follows:
 - i. The operator shall conduct source testing for NO_x, VOC reported as carbon, and CO at least once every two years from the date the previous source test, no later than the last day of the calendar month that the test is due, or every 8,760 operating hours, whichever occurs first.
 - ii. Frequency of subsequent source tests may be reduced to once every 3 years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a Rule 1110.2 source test is due, the source test shall be conducted by the end of 7 consecutive days or 15 cumulative days of resumed operation. An owner or operator of the engine shall keep sufficient operating records to demonstrate that it meets the requirements for extension of the source testing deadlines.
 - iii. The operator shall submit all source test reports, including a description of the equipment tested to South Coast AQMD within 60 days of completion of the test.
 - iv. Relative accuracy tests required by Rule 218.1, Rule 218.2, Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS for all applicable operating loads specified in Rule 1110.2(f)(1). Pursuant to Rule 218.3 as applicable, if the engine is not operating or generating emissions when a RATA is due, the RATA shall be performed within 14 days after the engine is restarted and resumes normal operation.
 - v. South Coast AQMD shall be notified of the scheduled source test date at least 30 days prior to conducting a source test. If after 30 days' notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance

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test, the engine operator shall notify the Executive Officer as soon as possible of any delay in the original test date, either by providing at least seven days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Executive Officer by mutual agreement.

- vi. Source tests shall be conducted at least 40 operating hours or at least 1 week after any engine servicing or tuning.
 - vii. The LAP contractor shall conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, the LAP contractor shall conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load (or the maximum load that can be practically achieved during the test); and at actual minimum load, excluding idle (or the minimum load that can be practically achieved during the test).
 - vii. If an emission exceedance is found during any of the three phases of the test, that phase shall be completed and reported. An operator shall correct the exceedance, and the source test shall be immediately resumed.
- F. Pursuant to Title V Periodic Monitoring Guidelines, the operator shall conduct source testing of each emission limit identified with a Rule 1303(a)(1)BACT or Rule 1303(a)(1)BACT/LAER tag (See Emissions and Requirements section below) at least once every 5 years.
[Rule 204, 217, 218.2, 218.3, 304, 1110.2, 1150.1, 3004(a)(4)]
25. A source test protocol shall be submitted to South Coast AQMD at least 60 days before the scheduled test date and shall be approved in writing by South Coast AQMD before the test commences or a valid previously South Coast AQMD approved protocol may be used for recurring source test. If the operator submits the protocol by the required date, and the Executive Officer takes longer than 60 days to approve the protocol, the operator shall be allowed the additional time needed to conduct the test. At a minimum, the source test protocol should include the following, unless otherwise approved in writing by South Coast AQMD:
- A. The name, address, and phone number of the unit operator and the South Coast AQMD-approved source testing contractor that will conduct the test(s).
 - B. The application and permit number(s).
 - C. A copy of the current valid approved permit(s).
 - D. The current emission limits.
 - E. A description of the equipment to be tested. Include a process schematic indicating sampling locations/ports, and sampling duct/stack dimensions along with upstream and downstream flow disturbances (e.g., elbows, tees, and fans).
 - F. A brief process description.
 - G. Operating conditions under which the test will be performed, including flow rate, temperature, pressure, number of tests to be conducted, operating loads, and required minimum sampling times.
 - H. A description of the sampling and analytical methods for each constituent measured.

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- I. Complete calculations for flow rates, concentrations, emission rates, and efficiencies.
 - J. A description of the calibration and quality assurance procedures.
 - K. A description of the parameters to be measured in accordance with the Inspection & Monitoring (I&M) plan requirements of Rule 1110.2, as applicable.
 - L. Copy of LAP approval for methods being used in the source test.
 - M. A statement determining that the testing laboratory qualifies as an “independent testing laboratory” under Rule 304 (no conflict of interest), signed by the responsible authority.
[Rule 204, 217, 304, 1110.2]
26. An owner or operator shall submit all source test results in a source test report, including a description of the equipment tested, to the South Coast AQMD Waste Management Permitting Unit in accordance with Rule 1110.2 and Rule 1150.1 and the source test report submittal deadlines indicated in the conditions above. The source test report shall include, but not be limited to the following, unless otherwise approved in writing by South Coast AQMD:
- A. Fuel flow rate for each fuel or fuel blend used during the source test, (standard cubic feet per minute).
 - B. Exhaust gas flow rate for each engine load and each fuel or fuel blend used during the source test (standard cubic feet per minute).
 - C. Higher heating value (HHV) of each fuel or fuel blend used during the source test (Btu/scf).
 - D. Methane content of each fuel or fuel blend used during the source test (single load) (percent by volume) and at outlet of air pollution control (APC) (lb/hr, ppmvd and ppmvd @15% O₂, destruction efficiency by weight).
 - E. Total non-methane organic compounds (TNMOC)/VOC at inlet for each fuel or fuel blend used during the source test (single load) and outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @3% O₂, destruction efficiency by weight).
 - F. Carbon monoxide at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - G. Oxides of nitrogen at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - H. Carbon dioxide of each fuel or fuel blends used during the source test and outlet of APC (lb/hr, ppmvd, percent by volume).
 - I. Total particulates/PM10 at outlet of APC (grains/dscf, g/bhp-hr, lb/hour).
 - J. Total reduced sulfur, as H₂S and speciated sulfur compounds of landfill gas (single load) (ppmv).
 - K. Total siloxanes (organic silicon compounds) of landfill gas and at outlet of engine and outlet of APC (ppmv).
 - L. Aldehydes of each fuel or fuel blend used during the source test and at outlet of APC (initial test only) (ppmv).
 - M. Speciated organics, including, but not limited to, Rule 1150.1 Table 1 Carcinogenic and Toxic Air Contaminants of each fuel or fuel blend used during the source tests and outlet of APC only (ppmv).
 - N. Oxygen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - O. Nitrogen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - P. Moisture content of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - Q. Temperature at inlet and outlet of engine and outlet of APC (Fahrenheit).

The operator shall comply with all general testing, reporting, and recordkeeping requirements in Sections E and K of this permit.

[Rule 204, 1110.2, 1150.1]

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27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
- [Rule 204]
29. All records required by this permit shall be retained at the facility for a minimum of five years, and shall be made available to any South Coast AQMD representative upon request.
- [Rules 204, 1110.2, 1150.1, 3004(a)(4)]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
- CO: 250 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - CO: 610 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - CO: 16.92 lb/hr, Rule 1303(b)(2) Offsets
 - NO_x: 11 ppmvd @15% O₂, dry Rule 1110.2, Rule 1303(a)(1) BACT
 - NO_x: 150 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - NO_x: 1.22 lb/hr, Rule 1303(b)(2) Offsets
 - PM: Rule 404, See appendix B for emission limits
 - PM₁₀: 0.066 grams/bhp-hr, Rule 1303(a)(1) BACT, Rule 1303(b)(2) Offsets
 - PM/PM₁₀: 0.61 lb/hr, Rule 1303(b)(2) Offsets
 - NMOC: 20 ppmvd as hexane @3% O₂ or 98% by weight reduction, Rule 1150.1, 40 CFR 62 Subpart F, 40 CFR 63 Subpart AAAA
 - VOC: 30 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - VOC: 1.16 lb/hr as methane, Rule 1303(b)(2) Offsets
 - VOC: 80 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - Sulfur: 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER.
 - Sulfur: 85 ppmv as H₂S in LFG inlet, averaged daily, Rule 1303(a)(1) BACT/LAER
 - 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER, Rule 1303(b)(2) Offsets
 - SO_x: 0.84 lb/hr, Rule 1303(b)(2) Offsets

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PERMIT TO CONSTRUCT

A/N 595660
Granted as of: TBD

Equipment Description:

Landfill Gas to Energy System No. 2 consisting of:

1. Pretreated Landfill Gas (LFG) Supply Line.
2. Internal Combustion Engine, No. 2, GE Jenbacher, Model J620 GS-F21, Landfill Gas and Natural Gas Fueled, Non-Emergency, Four Cycle, Twenty Cylinders, Lean Burn, Turbocharged and intercooled, rate at 4,183 bhp, driving an Electric Generator with a Gross Output of 3.03 MW.
3. Engine exhaust system vented to one Air Pollution Control System No. 2 (under Application No. 595664 or subsequent).

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. This engine shall be operated in compliance with all applicable provisions of Rule 218.2, Rule 218.3, Rule 431.1, Rule 1110.2, Rule 1150.1, NSPS 40 CFR Part 60 Subpart JJJJ, and NESHAP 40 CFR Part 63 Subpart ZZZZ.
[Rule 204, 218.2, 218.3, 431.1, 1110.2, 1150.1, 40 CFR part 60 Subparts JJJJ, CFR 40 Part 63 Subparts ZZZZ]
5. This equipment shall not be operated unless its exhaust is vented to an air pollution control system which is in operation in accordance with the air pollution control system's valid Permit to Construct or Operate issued by the South Coast AQMD.
[Rule 204]
6. This equipment shall be fueled on landfill gas (LFG) only or LFG with natural gas augmentation (landfill gas/natural gas blend).
[Rule 204]
7. A continuous flow indicating and recording device shall be installed in the LFG Supply Line and Natural Gas Supply Line to the engine to measure and record the volumetric flow rate of LFG and Natural Gas, respectively, (in standard cubic feet per minute) being supplied to each engine. The recording device shall be capable of recording gas flow at least every 15 minutes.
[Rule 204, 1150.1]
8. The total heat input rate for the fuel burned in this engine shall not exceed 26.34 MMBtu per hour (HHV), as rated at standard temperature and pressure. The operator shall maintain an electronic data acquisition system or

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other electronic log to record the average hourly LFG flow rate and Natural Gas flow rate based on readings taken every 15-minute interval. The high heating value (HHV) of the LFG shall be analyzed and recorded at least once per week. The total heat input rate (MMBtu per hour) shall be calculated based on the average hourly flow rate of LFG and natural gas, and the HHV of the LFG and natural gas.
 [Rule 1303(b)(1), 1303(b)(2) Offset]

9. Gas quality parameters, including but not limited to LFG HHV and methane percent, shall be analyzed and recorded using an instrument and/or method approved by the South Coast AQMD.
 [Rule 204]
10. The facility monthly average landfill gas usage by the engine shall be 90% or more, based on the higher heating value of the fuels used. The calculation of the monthly facility biogas use percentage may exclude natural gas fired during: any electrical outage at the facility; and a Stage 2 or higher electrical emergencies called by the California Independent System Operator Corporation.
 [Rule 1110.2]
11. The emissions from this engine (inclusive of the associated air pollution control system) shall not exceed the following limits, except during periods of engine start-up, until sufficient operating temperatures are reached for proper operation of the emission control equipment or for the tuning of the engine and/or emission control equipment and an engine shutdown period. The start-up and shutdown periods shall not exceed 30 minutes.

Pollutant	Emission Limit
Volatile Organic Compounds (VOC)	30 ppmv@15% O2 Dry
Oxides of Nitrogen (NOx)	11 ppmv@15% O2 Dry
Carbon Monoxide (CO)	250 ppmv@15% O2 Dry

NOx and CO emissions shall be averaged over a fixed-interval of one hour for engines equipped with a continuous emissions monitoring system. VOC shall be averaged over the sampling time required by the test method.
 [Rule 1110.2]

12. This equipment shall reduce non-methane organic compounds (NMOC) by at least 98 percent by weight or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen.
 [Rule 1150.1, 40 CFR part 62 Subpart F, 40 CFR part 63 subpart AAAA]
13. This equipment shall reduce the outlet methane concentration to less than 3000 ppmv, dry basis, corrected to 15 percent oxygen.
 [Rule 1150.1]
14. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the engine exhaust concentration for NOx and O2, on a dry basis. In addition, the system shall convert the actual NOx concentration to a corrected NOx concentration at 15% O2 and continuously record the stack NOx concentration at 15% O2. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
 [Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]

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15. The operator shall apply for, obtain, and maintain a valid Inspection and Maintenance Plan (I&M) Plan or shall install, operate, and maintain a continuous emission monitoring system (CEMS) that measures the engine exhaust concentration for CO, on a dry basis. If a CEMS for CO is installed, the system shall convert the actual CO concentration to a corrected CO concentration at 15% O₂ and continuously record the stack CO concentration at 15% O₂. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
[Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]
16. This engine shall be operated in compliance with all applicable monitoring, testing, recordkeeping, and reporting requirements of Rule 1110.2 (f)(1), including but not limited to:
- A. The operator shall install and maintain an operational non-resettable totalizing time meter on the engine (display reading shall be readily available) to determine the engine elapsed operating time.
- B. Conduct source testing for NO_x, VOC, reported as carbon, and CO concentration in ppm by volume, corrected to 15% oxygen on dry basis, at least once every two years, or every 8,760 operating hours, whichever occurs first. Relative accuracy tests required by Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS. The Source test frequency may be reduced to once every three years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a source test is due, the source test shall be conducted by the end of seven consecutive days or 15 cumulative days of resumed operation.
- Conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load, or the maximum load that can be practically achieved during the test, and; at actual minimum load, excluding idle, or the minimum load that can be practically achieved during the test.
- The operator shall use only a source test contractor that is approved by the Executive Officer under the South Coast AQMD Laboratory approval program (LAP) for the necessary test methods. The operator shall comply with the procedures stated in Rule 1110.2 (f)(1)(C)(iv) through (vii), regarding the submittal of source test protocol, source test reports and utilities for sampling and testing equipment.
- C. Maintain a monthly operating engine log that includes:
- i. Total hours of operation,
 - ii. Type of gaseous fuel,
 - iii. Fuel consumption (standard cubic feet of gas, and MMBtu), and
 - iv. Cumulative hours of operation since the last source test required in subparagraph (f)(1)(C) of Rule 1110.2.
- The log shall be made available upon request.
- D. The operator shall comply with the reporting requirements of Rule 1110.2 (f)(1)(H)(i) through (iii), pertaining to any equipment breakdown that results in emissions in excess of rule or permit emissions limits.
[Rule, 204, 1110.2]

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17. An adequate number of sampling port(s) and welded nipples with caps with safe access shall be installed and maintained at the inlet gas line(s) to the engine to allow the collection of each fuel gas (landfill gas and landfill gas/natural gas blend, as applicable) for samples in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217, 431.1, 1150.1]
18. An adequate number of sampling ports shall be maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g., elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
19. Operation of this equipment shall not result in the release of LFG into the atmosphere. Any breakdown or malfunction which results in emissions of LFG shall be reported to the South Coast AQMD in accordance with Rule 430 provisions and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions into the atmosphere.
[Rule 204, 402, 430, 1150.1]
20. The owner or operator of the CEMS shall notify the South Coast AQMD by calling 1-800-CUT-SMOG if the concentration level and/or emission rate, as applicable, is in excess of the emission limit(s) within 24 hours or the next working day after such occurrence.
[Rule 204, 218.2]
21. The operator shall comply with Rule 218.2 CEMS failure and/or shutdown requirements. Pursuant to Rule 218.2, a notification shall be submitted for CEMS failure and/or shutdown exceeding 24 hours. Shutdown events shall not exceed 96 hours, except as extended pursuant to Rule 218.2, as applicable. The operator shall log the time, date, duration, cause of the CEMS failure, description of the occurrence, and description of any corrective action taken for each failure and/or shutdown event, and report to the South Coast AQMD in accordance Rule 218.2, as applicable.
[Rule 204, 218.2]
22. As applicable pursuant to Rule 218.2, in the event of a scheduled shutdown of the CEMS, the operator shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 96 hours prior to the scheduled CEMS shutdown, submit a written report to South Coast AQMD within 24 hours of CEMS shutdown indicating that the engine is non-operational and there are no emissions during the period of engine shutdown, and shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 8 hours prior to the scheduled CEMS restart.
[Rule 204, 218.2]
23. As applicable pursuant to Rule 218.2, in the event that the engine does not operate for a minimum of 168 consecutive hours, as demonstrated pursuant to the provisions of Rule 218.2(e)(4), the owner or operator of the CEMS shall not be subject to Rule 218.2(e)(1) after zero emissions have been recorded for a minimum of 4 hours after the engine shutdown, provided that the owner or operator: maintains the CEMS operation pursuant to Rule 218.2(e)(1) to record zero emissions for a minimum of 4 hours after the engine shutdown, submits the notifications and report in accordance with Rule 218.2(i)(4), resumes CEMS operation and meet the requirements of Rule 218.2(e)(1) for a minimum of 4 hours before the engine resumes operation or at which time any emissions are generated; and conducts a calibration error test for each CEMS analyzer before any emissions are detected.
[Rule 204, 218.2]

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24. The owner or operator shall conduct a source test within 180 days of initial start-up of this equipment operated with each fuel type, unless otherwise approved in writing by South Coast AQMD. The initial source tests shall be performed when the engine is operating at maximum, minimum, and average loads each for fuel landfill gas and landfill gas/natural gas blend and as indicated below, unless otherwise approved in writing by South Coast AQMD. Thereafter, subsequent source tests shall be performed in accordance with Rule 1110.2 and Rule 1150.1 as indicated below, in as-found operating conditions.
- A. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) for the necessary test methods and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - B. Sampling facilities shall comply with South Coast AQMD "Guidelines for Construction of Sampling and Testing Facilities" pursuant to Rule 217.
 - C. The LAP contractor shall not conduct any pre-tests for compliance.
 - D. Pursuant to Rule 1150.1, the operator shall conduct source testing as follows, or pursuant to a valid and approved Rule 1150.1 Compliance Plan:
 - i. The operator shall conduct source testing for NMOC as hexane and methane annually. Subsequent annual source tests shall be conducted no later than 45 days after the anniversary date of the initial source test. The initial source test shall be submitted to South Coast AQMD no later than 180 days after start-up and each succeeding complete annual source test report no later than 45 days after the anniversary date of the initial source test.
 - E. Pursuant to Rule 1110.2(f)(1), the operator shall conduct source testing as follows:
 - i. The operator shall conduct source testing for NO_x, VOC reported as carbon, and CO at least once every two years from the date the previous source test, no later than the last day of the calendar month that the test is due, or every 8,760 operating hours, whichever occurs first.
 - ii. Frequency of subsequent source tests may be reduced to once every 3 years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a Rule 1110.2 source test is due, the source test shall be conducted by the end of 7 consecutive days or 15 cumulative days of resumed operation. An owner or operator of the engine shall keep sufficient operating records to demonstrate that it meets the requirements for extension of the source testing deadlines.
 - iii. The operator shall submit all source test reports, including a description of the equipment tested to South Coast AQMD within 60 days of completion of the test.
 - iv. Relative accuracy tests required by Rule 218.1, Rule 218.2, Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS for all applicable operating loads specified in Rule 1110.2(f)(1). Pursuant to Rule 218.3 as applicable, if the engine is not operating or generating emissions when a RATA is due, the RATA shall be performed within 14 days after the engine is restarted and resumes normal operation.
 - v. South Coast AQMD shall be notified of the scheduled source test date at least 30 days prior to conducting a source test. If after 30 days' notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance

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test, the engine operator shall notify the Executive Officer as soon as possible of any delay in the original test date, either by providing at least seven days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Executive Officer by mutual agreement.

- vi. Source tests shall be conducted at least 40 operating hours or at least 1 week after any engine servicing or tuning.
 - vii. The LAP contractor shall conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, the LAP contractor shall conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load (or the maximum load that can be practically achieved during the test); and at actual minimum load, excluding idle (or the minimum load that can be practically achieved during the test).
 - vii. If an emission exceedance is found during any of the three phases of the test, that phase shall be completed and reported. An operator shall correct the exceedance, and the source test shall be immediately resumed.
- F. Pursuant to Title V Periodic Monitoring Guidelines, the operator shall conduct source testing of each emission limit identified with a Rule 1303(a)(1)BACT or Rule 1303(a)(1)BACT/LAER tag (See Emissions and Requirements section below) at least once every 5 years.
[Rule 204, 217, 218.2, 218.3, 304, 1110.2, 1150.1, 3004(a)(4)]
25. A source test protocol shall be submitted to South Coast AQMD at least 60 days before the scheduled test date and shall be approved in writing by South Coast AQMD before the test commences or a valid previously South Coast AQMD approved protocol may be used for recurring source test. If the operator submits the protocol by the required date, and the Executive Officer takes longer than 60 days to approve the protocol, the operator shall be allowed the additional time needed to conduct the test. At a minimum, the source test protocol should include the following, unless otherwise approved in writing by South Coast AQMD:
- A. The name, address, and phone number of the unit operator and the South Coast AQMD-approved source testing contractor that will conduct the test(s).
 - B. The application and permit number(s).
 - C. A copy of the current valid approved permit(s).
 - D. The current emission limits.
 - E. A description of the equipment to be tested. Include a process schematic indicating sampling locations/ports, and sampling duct/stack dimensions along with upstream and downstream flow disturbances (e.g., elbows, tees, and fans).
 - F. A brief process description.
 - G. Operating conditions under which the test will be performed, including flow rate, temperature, pressure, number of tests to be conducted, operating loads, and required minimum sampling times.
 - H. A description of the sampling and analytical methods for each constituent measured.

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- I. Complete calculations for flow rates, concentrations, emission rates, and efficiencies.
 - J. A description of the calibration and quality assurance procedures.
 - K. A description of the parameters to be measured in accordance with the Inspection & Monitoring (I&M) plan requirements of Rule 1110.2, as applicable.
 - L. Copy of LAP approval for methods being used in the source test.
 - M. A statement determining that the testing laboratory qualifies as an “independent testing laboratory” under Rule 304 (no conflict of interest), signed by the responsible authority.
[Rule 204, 217, 304, 1110.2]
26. An owner or operator shall submit all source test results in a source test report, including a description of the equipment tested, to the South Coast AQMD Waste Management Permitting Unit in accordance with Rule 1110.2 and Rule 1150.1 and the source test report submittal deadlines indicated in the conditions above. The source test report shall include, but not be limited to the following, unless otherwise approved in writing by South Coast AQMD:
- A. Fuel flow rate for each fuel or fuel blend used during the source test, (standard cubic feet per minute).
 - B. Exhaust gas flow rate for each engine load and each fuel or fuel blend used during the source test (standard cubic feet per minute).
 - C. Higher heating value (HHV) of each fuel or fuel blend used during the source test (Btu/scf).
 - D. Methane content of each fuel or fuel blend used during the source test (single load) (percent by volume) and at outlet of air pollution control (APC) (lb/hr, ppmvd and ppmvd @15% O₂, destruction efficiency by weight).
 - E. Total non-methane organic compounds (TNMOC)/VOC at inlet for each fuel or fuel blend used during the source test (single load) and outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @3% O₂, destruction efficiency by weight).
 - F. Carbon monoxide at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - G. Oxides of nitrogen at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - H. Carbon dioxide of each fuel or fuel blends used during the source test and outlet of APC (lb/hr, ppmvd, percent by volume).
 - I. Total particulates/PM10 at outlet of APC (grains/dscf, g/bhp-hr, lb/hour).
 - J. Total reduced sulfur, as H₂S and speciated sulfur compounds of landfill gas (single load) (ppmv).
 - K. Total siloxanes (organic silicon compounds) of landfill gas and at outlet of engine and outlet of APC (ppmv).
 - L. Aldehydes of each fuel or fuel blend used during the source test and at outlet of APC (initial test only) (ppmv).
 - M. Speciated organics, including, but not limited to, Rule 1150.1 Table 1 Carcinogenic and Toxic Air Contaminants of each fuel or fuel blend used during the source tests and outlet of APC only (ppmv).
 - N. Oxygen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - O. Nitrogen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - P. Moisture content of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - Q. Temperature at inlet and outlet of engine and outlet of APC (Fahrenheit).

The operator shall comply with all general testing, reporting, and recordkeeping requirements in Sections E and K of this permit.

[Rule 204, 1110.2, 1150.1]

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27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
- [Rule 204]
29. All records required by this permit shall be retained at the facility for a minimum of five years, and shall be made available to any South Coast AQMD representative upon request.
- [Rules 204, 1110.2, 1150.1, 3004(a)(4)]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
- CO: 250 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - CO: 610 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - CO: 16.92 lb/hr, Rule 1303(b)(2) Offsets
 - NO_x: 11 ppmvd @15% O₂, dry Rule 1110.2, Rule 1303(a)(1) BACT
 - NO_x: 150 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - NO_x: 1.22 lb/hr, Rule 1303(b)(2) Offsets
 - PM: Rule 404, See appendix B for emission limits
 - PM₁₀: 0.066 grams/bhp-hr, Rule 1303(a)(1) BACT, Rule 1303(b)(2) Offsets
 - PM/PM₁₀: 0.61 lb/hr, Rule 1303(b)(2) Offsets
 - NMOC: 20 ppmvd as hexane @3% O₂ or 98% by weight reduction, Rule 1150.1, 40 CFR 62 Subpart F, 40 CFR 63 Subpart AAAA
 - VOC: 30 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - VOC: 1.16 lb/hr as methane, Rule 1303(b)(2) Offsets
 - VOC: 80 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - Sulfur: 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER.
 - Sulfur: 85 ppmv as H₂S in LFG inlet, averaged daily, Rule 1303(a)(1) BACT/LAER
 - 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER, Rule 1303(b)(2) Offsets
 - SO_x: 0.84 lb/hr, Rule 1303(b)(2) Offsets

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PERMIT TO CONSTRUCT

A/N 595661
Granted as of: TBD

Equipment Description:

Landfill Gas to Energy System No. 3 consisting of:

1. Pretreated Landfill Gas (LFG) Supply Line.
2. Internal Combustion Engine, No. 3, GE Jenbacher, Model J620 GS-F21, Landfill Gas and Natural Gas Fueled, Non-Emergency, Four Cycle, Twenty Cylinders, Lean Burn, Turbocharged and intercooled, rate at 4,183 bhp, driving an Electric Generator with a Gross Output of 3.03 MW.
3. Engine exhaust system vented to one Air Pollution Control System No. 3 (under Application No. 595665 or subsequent).

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. This engine shall be operated in compliance with all applicable provisions of Rule 218.2, Rule 218.3, Rule 431.1, Rule 1110.2, Rule 1150.1, NSPS 40 CFR Part 60 Subpart JJJJ, and NESHAP 40 CFR Part 63 Subpart ZZZZ.
[Rule 204, 218.2, 218.3, 431.1, 1110.2, 1150.1, 40 CFR part 60 Subparts JJJJ, CFR 40 Part 63 Subparts ZZZZ]
5. This equipment shall not be operated unless its exhaust is vented to an air pollution control system which is in operation in accordance with the air pollution control system's valid Permit to Construct or Operate issued by the South Coast AQMD.
[Rule 204]
6. This equipment shall be fueled on landfill gas (LFG) only or LFG with natural gas augmentation (landfill gas/natural gas blend).
[Rule 204]
7. A continuous flow indicating and recording device shall be installed in the LFG Supply Line and Natural Gas Supply Line to the engine to measure and record the volumetric flow rate of LFG and Natural Gas, respectively, (in standard cubic feet per minute) being supplied to each engine. The recording device shall be capable of recording gas flow at least every 15 minutes.
[Rule 204, 1150.1]
8. The total heat input rate for the fuel burned in this engine shall not exceed 26.34 MMBtu per hour (HHV), as rated at standard temperature and pressure. The operator shall maintain an electronic data acquisition system or

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other electronic log to record the average hourly LFG flow rate and Natural Gas flow rate based on readings taken every 15-minute interval. The high heating value (HHV) of the LFG shall be analyzed and recorded at least once per week. The total heat input rate (MMBtu per hour) shall be calculated based on the average hourly flow rate of LFG and natural gas, and the HHV of the LFG and natural gas.
 [Rule 1303(b)(1), 1303(b)(2) Offset]

9. Gas quality parameters, including but not limited to LFG HHV and methane percent, shall be analyzed and recorded using an instrument and/or method approved by the South Coast AQMD.
 [Rule 204]
10. The facility monthly average landfill gas usage by the engine shall be 90% or more, based on the higher heating value of the fuels used. The calculation of the monthly facility biogas use percentage may exclude natural gas fired during: any electrical outage at the facility; and a Stage 2 or higher electrical emergencies called by the California Independent System Operator Corporation.
 [Rule 1110.2]
11. The emissions from this engine (inclusive of the associated air pollution control system) shall not exceed the following limits, except during periods of engine start-up, until sufficient operating temperatures are reached for proper operation of the emission control equipment or for the tuning of the engine and/or emission control equipment and an engine shutdown period. The start-up and shutdown periods shall not exceed 30 minutes.

Pollutant	Emission Limit
Volatile Organic Compounds (VOC)	30 ppmv@15% O2 Dry
Oxides of Nitrogen (NOx)	11 ppmv@15% O2 Dry
Carbon Monoxide (CO)	250 ppmv@15% O2 Dry

NOx and CO emissions shall be averaged over a fixed-interval of one hour for engines equipped with a continuous emissions monitoring system. VOC shall be averaged over the sampling time required by the test method.
 [Rule 1110.2]

12. This equipment shall reduce non-methane organic compounds (NMOC) by at least 98 percent by weight or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen.
 [Rule 1150.1, 40 CFR part 62 Subpart F, 40 CFR part 63 subpart AAAA]
13. This equipment shall reduce the outlet methane concentration to less than 3000 ppmv, dry basis, corrected to 15 percent oxygen.
 [Rule 1150.1]
14. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the engine exhaust concentration for NOx and O2, on a dry basis. In addition, the system shall convert the actual NOx concentration to a corrected NOx concentration at 15% O2 and continuously record the stack NOx concentration at 15% O2. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
 [Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]

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15. The operator shall apply for, obtain, and maintain a valid Inspection and Maintenance Plan (I&M) Plan or shall install, operate, and maintain a continuous emission monitoring system (CEMS) that measures the engine exhaust concentration for CO, on a dry basis. If a CEMS for CO is installed, the system shall convert the actual CO concentration to a corrected CO concentration at 15% O₂ and continuously record the stack CO concentration at 15% O₂. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
[Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]
16. This engine shall be operated in compliance with all applicable monitoring, testing, recordkeeping, and reporting requirements of Rule 1110.2 (f)(1), including but not limited to:
- A. The operator shall install and maintain an operational non-resettable totalizing time meter on the engine (display reading shall be readily available) to determine the engine elapsed operating time.
- B. Conduct source testing for NO_x, VOC, reported as carbon, and CO concentration in ppm by volume, corrected to 15% oxygen on dry basis, at least once every two years, or every 8,760 operating hours, whichever occurs first. Relative accuracy tests required by Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS. The Source test frequency may be reduced to once every three years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a source test is due, the source test shall be conducted by the end of seven consecutive days or 15 cumulative days of resumed operation.
- Conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load, or the maximum load that can be practically achieved during the test, and; at actual minimum load, excluding idle, or the minimum load that can be practically achieved during the test.
- The operator shall use only a source test contractor that is approved by the Executive Officer under the South Coast AQMD Laboratory approval program (LAP) for the necessary test methods. The operator shall comply with the procedures stated in Rule 1110.2 (f)(1)(C)(iv) through (vii), regarding the submittal of source test protocol, source test reports and utilities for sampling and testing equipment.
- C. Maintain a monthly operating engine log that includes:
- i. Total hours of operation,
 - ii. Type of gaseous fuel,
 - iii. Fuel consumption (standard cubic feet of gas, and MMBtu), and
 - iv. Cumulative hours of operation since the last source test required in subparagraph (f)(1)(C) of Rule 1110.2.
- The log shall be made available upon request.
- D. The operator shall comply with the reporting requirements of Rule 1110.2 (f)(1)(H)(i) through (iii), pertaining to any equipment breakdown that results in emissions in excess of rule or permit emissions limits.
[Rule, 204, 1110.2]

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17. An adequate number of sampling port(s) and welded nipples with caps with safe access shall be installed and maintained at the inlet gas line(s) to the engine to allow the collection of each fuel gas (landfill gas and landfill gas/natural gas blend, as applicable) for samples in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217, 431.1, 1150.1]
18. An adequate number of sampling ports shall be maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g., elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
19. Operation of this equipment shall not result in the release of LFG into the atmosphere. Any breakdown or malfunction which results in emissions of LFG shall be reported to the South Coast AQMD in accordance with Rule 430 provisions and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions into the atmosphere.
[Rule 204, 402, 430, 1150.1]
20. The owner or operator of the CEMS shall notify the South Coast AQMD by calling 1-800-CUT-SMOG if the concentration level and/or emission rate, as applicable, is in excess of the emission limit(s) within 24 hours or the next working day after such occurrence.
[Rule 204, 218.2]
21. The operator shall comply with Rule 218.2 CEMS failure and/or shutdown requirements. Pursuant to Rule 218.2, a notification shall be submitted for CEMS failure and/or shutdown exceeding 24 hours. Shutdown events shall not exceed 96 hours, except as extended pursuant to Rule 218.2, as applicable. The operator shall log the time, date, duration, cause of the CEMS failure, description of the occurrence, and description of any corrective action taken for each failure and/or shutdown event, and report to the South Coast AQMD in accordance Rule 218.2, as applicable.
[Rule 204, 218.2]
22. As applicable pursuant to Rule 218.2, in the event of a scheduled shutdown of the CEMS, the operator shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 96 hours prior to the scheduled CEMS shutdown, submit a written report to South Coast AQMD within 24 hours of CEMS shutdown indicating that the engine is non-operational and there are no emissions during the period of engine shutdown, and shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 8 hours prior to the scheduled CEMS restart.
[Rule 204, 218.2]
23. As applicable pursuant to Rule 218.2, in the event that the engine does not operate for a minimum of 168 consecutive hours, as demonstrated pursuant to the provisions of Rule 218.2(e)(4), the owner or operator of the CEMS shall not be subject to Rule 218.2(e)(1) after zero emissions have been recorded for a minimum of 4 hours after the engine shutdown, provided that the owner or operator: maintains the CEMS operation pursuant to Rule 218.2(e)(1) to record zero emissions for a minimum of 4 hours after the engine shutdown, submits the notifications and report in accordance with Rule 218.2(i)(4), resumes CEMS operation and meet the requirements of Rule 218.2(e)(1) for a minimum of 4 hours before the engine resumes operation or at which time any emissions are generated; and conducts a calibration error test for each CEMS analyzer before any emissions are detected.
[Rule 204, 218.2]

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24. The owner or operator shall conduct a source test within 180 days of initial start-up of this equipment operated with each fuel type, unless otherwise approved in writing by South Coast AQMD. The initial source tests shall be performed when the engine is operating at maximum, minimum, and average loads each for fuel landfill gas and landfill gas/natural gas blend and as indicated below, unless otherwise approved in writing by South Coast AQMD. Thereafter, subsequent source tests shall be performed in accordance with Rule 1110.2 and Rule 1150.1 as indicated below, in as-found operating conditions.
- A. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) for the necessary test methods and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - B. Sampling facilities shall comply with South Coast AQMD "Guidelines for Construction of Sampling and Testing Facilities" pursuant to Rule 217.
 - C. The LAP contractor shall not conduct any pre-tests for compliance.
 - D. Pursuant to Rule 1150.1, the operator shall conduct source testing as follows, or pursuant to a valid and approved Rule 1150.1 Compliance Plan:
 - i. The operator shall conduct source testing for NMOC as hexane and methane annually. Subsequent annual source tests shall be conducted no later than 45 days after the anniversary date of the initial source test. The initial source test shall be submitted to South Coast AQMD no later than 180 days after start-up and each succeeding complete annual source test report no later than 45 days after the anniversary date of the initial source test.
 - E. Pursuant to Rule 1110.2(f)(1), the operator shall conduct source testing as follows:
 - i. The operator shall conduct source testing for NO_x, VOC reported as carbon, and CO at least once every two years from the date the previous source test, no later than the last day of the calendar month that the test is due, or every 8,760 operating hours, whichever occurs first.
 - ii. Frequency of subsequent source tests may be reduced to once every 3 years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a Rule 1110.2 source test is due, the source test shall be conducted by the end of 7 consecutive days or 15 cumulative days of resumed operation. An owner or operator of the engine shall keep sufficient operating records to demonstrate that it meets the requirements for extension of the source testing deadlines.
 - iii. The operator shall submit all source test reports, including a description of the equipment tested to South Coast AQMD within 60 days of completion of the test.
 - iv. Relative accuracy tests required by Rule 218.1, Rule 218.2, Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS for all applicable operating loads specified in Rule 1110.2(f)(1). Pursuant to Rule 218.3 as applicable, if the engine is not operating or generating emissions when a RATA is due, the RATA shall be performed within 14 days after the engine is restarted and resumes normal operation.
 - v. South Coast AQMD shall be notified of the scheduled source test date at least 30 days prior to conducting a source test. If after 30 days' notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance

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test, the engine operator shall notify the Executive Officer as soon as possible of any delay in the original test date, either by providing at least seven days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Executive Officer by mutual agreement.

- vi. Source tests shall be conducted at least 40 operating hours or at least 1 week after any engine servicing or tuning.
 - vii. The LAP contractor shall conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, the LAP contractor shall conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load (or the maximum load that can be practically achieved during the test); and at actual minimum load, excluding idle (or the minimum load that can be practically achieved during the test).
 - vii. If an emission exceedance is found during any of the three phases of the test, that phase shall be completed and reported. An operator shall correct the exceedance, and the source test shall be immediately resumed.
- F. Pursuant to Title V Periodic Monitoring Guidelines, the operator shall conduct source testing of each emission limit identified with a Rule 1303(a)(1)BACT or Rule 1303(a)(1)BACT/LAER tag (See Emissions and Requirements section below) at least once every 5 years.
[Rule 204, 217, 218.2, 218.3, 304, 1110.2, 1150.1, 3004(a)(4)]
25. A source test protocol shall be submitted to South Coast AQMD at least 60 days before the scheduled test date and shall be approved in writing by South Coast AQMD before the test commences or a valid previously South Coast AQMD approved protocol may be used for recurring source test. If the operator submits the protocol by the required date, and the Executive Officer takes longer than 60 days to approve the protocol, the operator shall be allowed the additional time needed to conduct the test. At a minimum, the source test protocol should include the following, unless otherwise approved in writing by South Coast AQMD:
- A. The name, address, and phone number of the unit operator and the South Coast AQMD-approved source testing contractor that will conduct the test(s).
 - B. The application and permit number(s).
 - C. A copy of the current valid approved permit(s).
 - D. The current emission limits.
 - E. A description of the equipment to be tested. Include a process schematic indicating sampling locations/ports, and sampling duct/stack dimensions along with upstream and downstream flow disturbances (e.g., elbows, tees, and fans).
 - F. A brief process description.
 - G. Operating conditions under which the test will be performed, including flow rate, temperature, pressure, number of tests to be conducted, operating loads, and required minimum sampling times.
 - H. A description of the sampling and analytical methods for each constituent measured.

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- I. Complete calculations for flow rates, concentrations, emission rates, and efficiencies.
 - J. A description of the calibration and quality assurance procedures.
 - K. A description of the parameters to be measured in accordance with the Inspection & Monitoring (I&M) plan requirements of Rule 1110.2, as applicable.
 - L. Copy of LAP approval for methods being used in the source test.
 - M. A statement determining that the testing laboratory qualifies as an “independent testing laboratory” under Rule 304 (no conflict of interest), signed by the responsible authority.
[Rule 204, 217, 304, 1110.2]
26. An owner or operator shall submit all source test results in a source test report, including a description of the equipment tested, to the South Coast AQMD Waste Management Permitting Unit in accordance with Rule 1110.2 and Rule 1150.1 and the source test report submittal deadlines indicated in the conditions above. The source test report shall include, but not be limited to the following, unless otherwise approved in writing by South Coast AQMD:
- A. Fuel flow rate for each fuel or fuel blend used during the source test, (standard cubic feet per minute).
 - B. Exhaust gas flow rate for each engine load and each fuel or fuel blend used during the source test (standard cubic feet per minute).
 - C. Higher heating value (HHV) of each fuel or fuel blend used during the source test (Btu/scf).
 - D. Methane content of each fuel or fuel blend used during the source test (single load) (percent by volume) and at outlet of air pollution control (APC) (lb/hr, ppmvd and ppmvd @15% O₂, destruction efficiency by weight).
 - E. Total non-methane organic compounds (TNMOC)/VOC at inlet for each fuel or fuel blend used during the source test (single load) and outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @3% O₂, destruction efficiency by weight).
 - F. Carbon monoxide at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - G. Oxides of nitrogen at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - H. Carbon dioxide of each fuel or fuel blends used during the source test and outlet of APC (lb/hr, ppmvd, percent by volume).
 - I. Total particulates/PM10 at outlet of APC (grains/dscf, g/bhp-hr, lb/hour).
 - J. Total reduced sulfur, as H₂S and speciated sulfur compounds of landfill gas (single load) (ppmv).
 - K. Total siloxanes (organic silicon compounds) of landfill gas and at outlet of engine and outlet of APC (ppmv).
 - L. Aldehydes of each fuel or fuel blend used during the source test and at outlet of APC (initial test only) (ppmv).
 - M. Speciated organics, including, but not limited to, Rule 1150.1 Table 1 Carcinogenic and Toxic Air Contaminants of each fuel or fuel blend used during the source tests and outlet of APC only (ppmv).
 - N. Oxygen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - O. Nitrogen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - P. Moisture content of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - Q. Temperature at inlet and outlet of engine and outlet of APC (Fahrenheit).

The operator shall comply with all general testing, reporting, and recordkeeping requirements in Sections E and K of this permit.

[Rule 204, 1110.2, 1150.1]

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27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
- [Rule 204]
29. All records required by this permit shall be retained at the facility for a minimum of five years, and shall be made available to any South Coast AQMD representative upon request.
- [Rules 204, 1110.2, 1150.1, 3004(a)(4)]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
- CO: 250 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - CO: 610 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - CO: 16.92 lb/hr, Rule 1303(b)(2) Offsets
 - NO_x: 11 ppmvd @15% O₂, dry Rule 1110.2, Rule 1303(a)(1) BACT
 - NO_x: 150 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - NO_x: 1.22 lb/hr, Rule 1303(b)(2) Offsets
 - PM: Rule 404, See appendix B for emission limits
 - PM₁₀: 0.066 grams/bhp-hr, Rule 1303(a)(1) BACT, Rule 1303(b)(2) Offsets
 - PM/PM₁₀: 0.61 lb/hr, Rule 1303(b)(2) Offsets
 - NMOC: 20 ppmvd as hexane @3% O₂ or 98% by weight reduction, Rule 1150.1, 40 CFR 62 Subpart F, 40 CFR 63 Subpart AAAA
 - VOC: 30 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - VOC: 1.16 lb/hr as methane, Rule 1303(b)(2) Offsets
 - VOC: 80 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - Sulfur: 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER.
 - Sulfur: 85 ppmv as H₂S in LFG inlet, averaged daily, Rule 1303(a)(1) BACT/LAER
 - 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER, Rule 1303(b)(2) Offsets
 - SO_x: 0.84 lb/hr, Rule 1303(b)(2) Offsets

FACILITY PERMIT TO OPERATE GLENDALE CITY, GLENDALE WATER AND POWER

PERMIT TO CONSTRUCT

A/N 595662
Granted as of: TBD

Equipment Description:

Landfill Gas to Energy System No. 4 consisting of:

1. Pretreated Landfill Gas (LFG) Supply Line.
2. Internal Combustion Engine, No. 4, GE Jenbacher, Model J620 GS-F21, Landfill Gas and Natural Gas Fueled, Non-Emergency, Four Cycle, Twenty Cylinders, Lean Burn, Turbocharged and intercooled, rate at 4,183 bhp, driving an Electric Generator with a Gross Output of 3.03 MW.
3. Engine exhaust system vented to one Air Pollution Control System No. 4 (under Application No. 595666 or subsequent).

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. This engine shall be operated in compliance with all applicable provisions of Rule 218.2, Rule 218.3, Rule 431.1, Rule 1110.2, Rule 1150.1, NSPS 40 CFR Part 60 Subpart JJJJ, and NESHAP 40 CFR Part 63 Subpart ZZZZ.
[Rule 204, 218.2, 218.3, 431.1, 1110.2, 1150.1, 40 CFR part 60 Subparts JJJJ, CFR 40 Part 63 Subparts ZZZZ]
5. This equipment shall not be operated unless its exhaust is vented to an air pollution control system which is in operation in accordance with the air pollution control system's valid Permit to Construct or Operate issued by the South Coast AQMD.
[Rule 204]
6. This equipment shall be fueled on landfill gas (LFG) only or LFG with natural gas augmentation (landfill gas/natural gas blend).
[Rule 204]
7. A continuous flow indicating and recording device shall be installed in the LFG Supply Line and Natural Gas Supply Line to the engine to measure and record the volumetric flow rate of LFG and Natural Gas, respectively, (in standard cubic feet per minute) being supplied to each engine. The recording device shall be capable of recording gas flow at least every 15 minutes.
[Rule 204, 1150.1]
8. The total heat input rate for the fuel burned in this engine shall not exceed 26.34 MMBtu per hour (HHV), as rated at standard temperature and pressure. The operator shall maintain an electronic data acquisition system or

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other electronic log to record the average hourly LFG flow rate and Natural Gas flow rate based on readings taken every 15-minute interval. The high heating value (HHV) of the LFG shall be analyzed and recorded at least once per week. The total heat input rate (MMBtu per hour) shall be calculated based on the average hourly flow rate of LFG and natural gas, and the HHV of the LFG and natural gas.
 [Rule 1303(b)(1), 1303(b)(2) Offset]

9. Gas quality parameters, including but not limited to LFG HHV and methane percent, shall be analyzed and recorded using an instrument and/or method approved by the South Coast AQMD.
 [Rule 204]
10. The facility monthly average landfill gas usage by the engine shall be 90% or more, based on the higher heating value of the fuels used. The calculation of the monthly facility biogas use percentage may exclude natural gas fired during: any electrical outage at the facility; and a Stage 2 or higher electrical emergencies called by the California Independent System Operator Corporation.
 [Rule 1110.2]
11. The emissions from this engine (inclusive of the associated air pollution control system) shall not exceed the following limits, except during periods of engine start-up, until sufficient operating temperatures are reached for proper operation of the emission control equipment or for the tuning of the engine and/or emission control equipment and an engine shutdown period. The start-up and shutdown periods shall not exceed 30 minutes.

Pollutant	Emission Limit
Volatile Organic Compounds (VOC)	30 ppmv@15% O2 Dry
Oxides of Nitrogen (NOx)	11 ppmv@15% O2 Dry
Carbon Monoxide (CO)	250 ppmv@15% O2 Dry

NOx and CO emissions shall be averaged over a fixed-interval of one hour for engines equipped with a continuous emissions monitoring system. VOC shall be averaged over the sampling time required by the test method.
 [Rule 1110.2]

12. This equipment shall reduce non-methane organic compounds (NMOC) by at least 98 percent by weight or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen.
 [Rule 1150.1, 40 CFR part 62 Subpart F, 40 CFR part 63 subpart AAAA]
13. This equipment shall reduce the outlet methane concentration to less than 3000 ppmv, dry basis, corrected to 15 percent oxygen.
 [Rule 1150.1]
14. A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained to measure the engine exhaust concentration for NOx and O2, on a dry basis. In addition, the system shall convert the actual NOx concentration to a corrected NOx concentration at 15% O2 and continuously record the stack NOx concentration at 15% O2. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
 [Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]

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15. The operator shall apply for, obtain, and maintain a valid Inspection and Maintenance Plan (I&M) Plan or shall install, operate, and maintain a continuous emission monitoring system (CEMS) that measures the engine exhaust concentration for CO, on a dry basis. If a CEMS for CO is installed, the system shall convert the actual CO concentration to a corrected CO concentration at 15% O₂ and continuously record the stack CO concentration at 15% O₂. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3. Prior to installation, this monitoring system shall be approved in writing by the South Coast AQMD. The CEMS shall be maintained and operated in accordance with CEMS final certification letter, approved in writing by the South Coast AQMD. This monitoring system shall comply with the requirements of South Coast AQMD Rule 218.2 and Rule 218.3, pursuant to the implementation schedules specified by the respective rules.
[Rule 218.2, 218.3 1110.2, 3004(a)(4) Periodic Monitoring, 40 CFR 64]
16. This engine shall be operated in compliance with all applicable monitoring, testing, recordkeeping, and reporting requirements of Rule 1110.2 (f)(1), including but not limited to:
- A. The operator shall install and maintain an operational non-resettable totalizing time meter on the engine (display reading shall be readily available) to determine the engine elapsed operating time.
- B. Conduct source testing for NO_x, VOC, reported as carbon, and CO concentration in ppm by volume, corrected to 15% oxygen on dry basis, at least once every two years, or every 8,760 operating hours, whichever occurs first. Relative accuracy tests required by Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS. The Source test frequency may be reduced to once every three years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a source test is due, the source test shall be conducted by the end of seven consecutive days or 15 cumulative days of resumed operation.
- Conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load, or the maximum load that can be practically achieved during the test, and; at actual minimum load, excluding idle, or the minimum load that can be practically achieved during the test.
- The operator shall use only a source test contractor that is approved by the Executive Officer under the South Coast AQMD Laboratory approval program (LAP) for the necessary test methods. The operator shall comply with the procedures stated in Rule 1110.2 (f)(1)(C)(iv) through (vii), regarding the submittal of source test protocol, source test reports and utilities for sampling and testing equipment.
- C. Maintain a monthly operating engine log that includes:
- i. Total hours of operation,
 - ii. Type of gaseous fuel,
 - iii. Fuel consumption (standard cubic feet of gas, and MMBtu), and
 - iv. Cumulative hours of operation since the last source test required in subparagraph (f)(1)(C) of Rule 1110.2.
- The log shall be made available upon request.
- D. The operator shall comply with the reporting requirements of Rule 1110.2 (f)(1)(H)(i) through (iii), pertaining to any equipment breakdown that results in emissions in excess of rule or permit emissions limits.
[Rule, 204, 1110.2]

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17. An adequate number of sampling port(s) and welded nipples with caps with safe access shall be installed and maintained at the inlet gas line(s) to the engine to allow the collection of each fuel gas (landfill gas and landfill gas/natural gas blend, as applicable) for samples in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217, 431.1, 1150.1]
18. An adequate number of sampling ports shall be maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g., elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
19. Operation of this equipment shall not result in the release of LFG into the atmosphere. Any breakdown or malfunction which results in emissions of LFG shall be reported to the South Coast AQMD in accordance with Rule 430 provisions and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions into the atmosphere.
[Rule 204, 402, 430, 1150.1]
20. The owner or operator of the CEMS shall notify the South Coast AQMD by calling 1-800-CUT-SMOG if the concentration level and/or emission rate, as applicable, is in excess of the emission limit(s) within 24 hours or the next working day after such occurrence.
[Rule 204, 218.2]
21. The operator shall comply with Rule 218.2 CEMS failure and/or shutdown requirements. Pursuant to Rule 218.2, a notification shall be submitted for CEMS failure and/or shutdown exceeding 24 hours. Shutdown events shall not exceed 96 hours, except as extended pursuant to Rule 218.2, as applicable. The operator shall log the time, date, duration, cause of the CEMS failure, description of the occurrence, and description of any corrective action taken for each failure and/or shutdown event, and report to the South Coast AQMD in accordance Rule 218.2, as applicable.
[Rule 204, 218.2]
22. As applicable pursuant to Rule 218.2, in the event of a scheduled shutdown of the CEMS, the operator shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 96 hours prior to the scheduled CEMS shutdown, submit a written report to South Coast AQMD within 24 hours of CEMS shutdown indicating that the engine is non-operational and there are no emissions during the period of engine shutdown, and shall notify South Coast AQMD by calling 1-800-CUT-SMOG, at least 8 hours prior to the scheduled CEMS restart.
[Rule 204, 218.2]
23. As applicable pursuant to Rule 218.2, in the event that the engine does not operate for a minimum of 168 consecutive hours, as demonstrated pursuant to the provisions of Rule 218.2(e)(4), the owner or operator of the CEMS shall not be subject to Rule 218.2(e)(1) after zero emissions have been recorded for a minimum of 4 hours after the engine shutdown, provided that the owner or operator: maintains the CEMS operation pursuant to Rule 218.2(e)(1) to record zero emissions for a minimum of 4 hours after the engine shutdown, submits the notifications and report in accordance with Rule 218.2(i)(4), resumes CEMS operation and meet the requirements of Rule 218.2(e)(1) for a minimum of 4 hours before the engine resumes operation or at which time any emissions are generated; and conducts a calibration error test for each CEMS analyzer before any emissions are detected.
[Rule 204, 218.2]

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24. The owner or operator shall conduct a source test within 180 days of initial start-up of this equipment operated with each fuel type, unless otherwise approved in writing by South Coast AQMD. The initial source tests shall be performed when the engine is operating at maximum, minimum, and average loads each for fuel landfill gas and landfill gas/natural gas blend and as indicated below, unless otherwise approved in writing by South Coast AQMD. Thereafter, subsequent source tests shall be performed in accordance with Rule 1110.2 and Rule 1150.1 as indicated below, in as-found operating conditions.
- A. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) for the necessary test methods and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - B. Sampling facilities shall comply with South Coast AQMD "Guidelines for Construction of Sampling and Testing Facilities" pursuant to Rule 217.
 - C. The LAP contractor shall not conduct any pre-tests for compliance.
 - D. Pursuant to Rule 1150.1, the operator shall conduct source testing as follows, or pursuant to a valid and approved Rule 1150.1 Compliance Plan:
 - i. The operator shall conduct source testing for NMOC as hexane and methane annually. Subsequent annual source tests shall be conducted no later than 45 days after the anniversary date of the initial source test. The initial source test shall be submitted to South Coast AQMD no later than 180 days after start-up and each succeeding complete annual source test report no later than 45 days after the anniversary date of the initial source test.
 - E. Pursuant to Rule 1110.2(f)(1), the operator shall conduct source testing as follows:
 - i. The operator shall conduct source testing for NO_x, VOC reported as carbon, and CO at least once every two years from the date the previous source test, no later than the last day of the calendar month that the test is due, or every 8,760 operating hours, whichever occurs first.
 - ii. Frequency of subsequent source tests may be reduced to once every 3 years if the engine has operated less than 2,000 hours since the last source test. If the engine has not been operated before the date a Rule 1110.2 source test is due, the source test shall be conducted by the end of 7 consecutive days or 15 cumulative days of resumed operation. An owner or operator of the engine shall keep sufficient operating records to demonstrate that it meets the requirements for extension of the source testing deadlines.
 - iii. The operator shall submit all source test reports, including a description of the equipment tested to South Coast AQMD within 60 days of completion of the test.
 - iv. Relative accuracy tests required by Rule 218.1, Rule 218.2, Rule 218.3 or 40 CFR Part 75 Subpart E shall satisfy this requirement for those pollutants monitored by a CEMS for all applicable operating loads specified in Rule 1110.2(f)(1). Pursuant to Rule 218.3 as applicable, if the engine is not operating or generating emissions when a RATA is due, the RATA shall be performed within 14 days after the engine is restarted and resumes normal operation.
 - v. South Coast AQMD shall be notified of the scheduled source test date at least 30 days prior to conducting a source test. If after 30 days' notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance

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test, the engine operator shall notify the Executive Officer as soon as possible of any delay in the original test date, either by providing at least seven days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Executive Officer by mutual agreement.

- vi. Source tests shall be conducted at least 40 operating hours or at least 1 week after any engine servicing or tuning.
 - vii. The LAP contractor shall conduct source testing for at least 30 minutes during normal operation (actual duty cycle). This test shall not be conducted under a steady-state condition unless it is the normal operation. In addition, the LAP contractor shall conduct source testing for NO_x and CO emissions for at least 15 minutes at: an engine's actual peak load (or the maximum load that can be practically achieved during the test); and at actual minimum load, excluding idle (or the minimum load that can be practically achieved during the test).
 - vii. If an emission exceedance is found during any of the three phases of the test, that phase shall be completed and reported. An operator shall correct the exceedance, and the source test shall be immediately resumed.
- F. Pursuant to Title V Periodic Monitoring Guidelines, the operator shall conduct source testing of each emission limit identified with a Rule 1303(a)(1)BACT or Rule 1303(a)(1)BACT/LAER tag (See Emissions and Requirements section below) at least once every 5 years.
[Rule 204, 217, 218.2, 218.3, 304, 1110.2, 1150.1, 3004(a)(4)]
25. A source test protocol shall be submitted to South Coast AQMD at least 60 days before the scheduled test date and shall be approved in writing by South Coast AQMD before the test commences or a valid previously South Coast AQMD approved protocol may be used for recurring source test. If the operator submits the protocol by the required date, and the Executive Officer takes longer than 60 days to approve the protocol, the operator shall be allowed the additional time needed to conduct the test. At a minimum, the source test protocol should include the following, unless otherwise approved in writing by South Coast AQMD:
- A. The name, address, and phone number of the unit operator and the South Coast AQMD-approved source testing contractor that will conduct the test(s).
 - B. The application and permit number(s).
 - C. A copy of the current valid approved permit(s).
 - D. The current emission limits.
 - E. A description of the equipment to be tested. Include a process schematic indicating sampling locations/ports, and sampling duct/stack dimensions along with upstream and downstream flow disturbances (e.g., elbows, tees, and fans).
 - F. A brief process description.
 - G. Operating conditions under which the test will be performed, including flow rate, temperature, pressure, number of tests to be conducted, operating loads, and required minimum sampling times.
 - H. A description of the sampling and analytical methods for each constituent measured.

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- I. Complete calculations for flow rates, concentrations, emission rates, and efficiencies.
 - J. A description of the calibration and quality assurance procedures.
 - K. A description of the parameters to be measured in accordance with the Inspection & Monitoring (I&M) plan requirements of Rule 1110.2, as applicable.
 - L. Copy of LAP approval for methods being used in the source test.
 - M. A statement determining that the testing laboratory qualifies as an “independent testing laboratory” under Rule 304 (no conflict of interest), signed by the responsible authority.
[Rule 204, 217, 304, 1110.2]
26. An owner or operator shall submit all source test results in a source test report, including a description of the equipment tested, to the South Coast AQMD Waste Management Permitting Unit in accordance with Rule 1110.2 and Rule 1150.1 and the source test report submittal deadlines indicated in the conditions above. The source test report shall include, but not be limited to the following, unless otherwise approved in writing by South Coast AQMD:
- A. Fuel flow rate for each fuel or fuel blend used during the source test, (standard cubic feet per minute).
 - B. Exhaust gas flow rate for each engine load and each fuel or fuel blend used during the source test (standard cubic feet per minute).
 - C. Higher heating value (HHV) of each fuel or fuel blend used during the source test (Btu/scf).
 - D. Methane content of each fuel or fuel blend used during the source test (single load) (percent by volume) and at outlet of air pollution control (APC) (lb/hr, ppmvd and ppmvd @15% O₂, destruction efficiency by weight).
 - E. Total non-methane organic compounds (TNMOC)/VOC at inlet for each fuel or fuel blend used during the source test (single load) and outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @3% O₂, destruction efficiency by weight).
 - F. Carbon monoxide at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - G. Oxides of nitrogen at outlet of APC (lb/hr, g/bhp-hr, ppmvd, ppmvd @15% O₂).
 - H. Carbon dioxide of each fuel or fuel blends used during the source test and outlet of APC (lb/hr, ppmvd, percent by volume).
 - I. Total particulates/PM10 at outlet of APC (grains/dscf, g/bhp-hr, lb/hour).
 - J. Total reduced sulfur, as H₂S and speciated sulfur compounds of landfill gas (single load) (ppmv).
 - K. Total siloxanes (organic silicon compounds) of landfill gas and at outlet of engine and outlet of APC (ppmv).
 - L. Aldehydes of each fuel or fuel blend used during the source test and at outlet of APC (initial test only) (ppmv).
 - M. Speciated organics, including, but not limited to, Rule 1150.1 Table 1 Carcinogenic and Toxic Air Contaminants of each fuel or fuel blend used during the source tests and outlet of APC only (ppmv).
 - N. Oxygen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - O. Nitrogen of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - P. Moisture content of fuel or fuel blends used during the source test and outlet of APC (percent by volume).
 - Q. Temperature at inlet and outlet of engine and outlet of APC (Fahrenheit).

The operator shall comply with all general testing, reporting, and recordkeeping requirements in Sections E and K of this permit.

[Rule 204, 1110.2, 1150.1]

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27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
- [Rule 204]
29. All records required by this permit shall be retained at the facility for a minimum of five years, and shall be made available to any South Coast AQMD representative upon request.
- [Rules 204, 1110.2, 1150.1, 3004(a)(4)]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
- CO: 250 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - CO: 610 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - CO: 16.92 lb/hr, Rule 1303(b)(2) Offsets
 - NO_x: 11 ppmvd @15% O₂, dry Rule 1110.2, Rule 1303(a)(1) BACT
 - NO_x: 150 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - NO_x: 1.22 lb/hr, Rule 1303(b)(2) Offsets
 - PM: Rule 404, See appendix B for emission limits
 - PM₁₀: 0.066 grams/bhp-hr, Rule 1303(a)(1) BACT, Rule 1303(b)(2) Offsets
 - PM/PM₁₀: 0.61 lb/hr, Rule 1303(b)(2) Offsets
 - NMOC: 20 ppmvd as hexane @3% O₂ or 98% by weight reduction, Rule 1150.1, 40 CFR 62 Subpart F, 40 CFR 63 Subpart AAAA
 - VOC: 30 ppmvd @15% O₂, Rule 1110.2, Rule 1303(a)(1) BACT
 - VOC: 1.16 lb/hr as methane, Rule 1303(b)(2) Offsets
 - VOC: 80 ppmv @15% O₂, dry, 40 CFR 60 subpart JJJJ, 40 CFR 63 Subpart ZZZZ
 - Sulfur: 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER.
 - Sulfur: 85 ppmv as H₂S in LFG inlet, averaged daily, Rule 1303(a)(1) BACT/LAER
 - 60 ppmv as H₂S in LFG inlet, averaged monthly, Rule 1303(a)(1) BACT/LAER, Rule 1303(b)(2) Offsets
 - SO_x: 0.84 lb/hr, Rule 1303(b)(2) Offsets

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PERMIT TO CONSTRUCT

A/N 565663
Granted as of: TBD

Equipment Description:

Air Pollution Control System No. 1 consisting of:

1. Oxidation Catalyst, Johnson Matthey or equivalent, Model No. SC09 or equivalent, with one layer of corrugated metallic foil type platinum microporous catalyst or equivalent modules, each Approximately 1' L. x 1' W. x 0'-3.5" H., with a total volume of approximately 7.3 cubic ft.
2. Aqueous Ammonia Injection System.
3. Selective Catalytic Reduction (SCR) System with:
 - A. Catalyst Guard Bed layer, Johnson Matthey SW55 wash-coat type or equivalent, approximately 1' L. x 1' W. x 0'-4" H., with approximately 7 cubic feet volume.
 - B. SCR Catalyst, Johnson Matthey SW55 or equivalent consisting of two layers of honeycomb-type ceramic type microporous catalyst or equivalent modules, each approximately 1' L. x 1' W. x 1' H., with a total volume of approximately 47 cubic ft.
 - C. Ammonia Slip Catalyst, Johnson Matthey DW3140 or equivalent, consisting of one layer of honeycomb-type mixed metal ceramic microporous catalyst, modules, each 1' L. x 1' W. x 0'-6" H., with a total volume of approximately 12 cubic ft.
4. Exhaust Stack, 40' H. x 2' Dia.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. The NO_x and CO monitoring and ammonia injection system shall be in full operation whenever the selective catalytic reduction (SCR) system is in operation.
[Rule 204]
5. This air pollution control system shall be in full operation whenever the internal combustion engine it is venting is in operation, unless otherwise noted in this permit or the internal combustion engine permit (A/N 595659 or subsequent).
[Rule 204]
6. This equipment shall be inspected and maintained per manufacturer's specifications. Records of the inspection and maintenance of this equipment shall be maintained and be retained for at least five years and be made available the South Coast AQMD personnel upon request.
[Rule 204]

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7. During the first catalyst replacement and/or overhaul during which the SCR is shutdown, the operator shall sample each catalyst type (Oxidation, SCR, and Ammonia) and shall analyze catalyst activity/health, unless otherwise approved in writing by South Coast AQMD. The results shall be submitted to the South Coast AQMD (Attention Waste Management Permitting) within 60 days of the sampling event.
[Rule 204]
8. An adequate number of sampling ports shall be installed and maintained at the inlet and outlet of the air pollution control system in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217]
9. An adequate number of sampling ports shall be installed and maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g. elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon written approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
10. The operator shall install and maintain temperature measuring and recording system(s) to accurately measure and record the temperature in degrees Fahrenheit at the inlet and outlet of the oxidation catalyst, SCR catalyst and ammonia catalyst. The temperatures shall be continuously measured and recorded. The temperature measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The temperature sensors shall be inspected and/or cleaned every six months. Records shall be maintained indicating each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
11. The minimum temperature of the engine exhaust at the inlet of the SCR unit shall be at least 550 degrees Fahrenheit. The period during which the temperature of exhaust gases entering the SCR Unit is less than 550 degrees Fahrenheit shall not exceed 30 minutes for each cold start-up and shutdown.
[Rule 204, 1110.2]
12. The maximum temperature of the exhaust gases entering the SCR unit shall not exceed 860 degrees Fahrenheit.
[Rule 204]
13. The operator shall install and maintain differential pressure measuring and recording system(s) to accurately indicate the differential pressure in inches of water column across the SCR catalyst and across the oxidation catalyst. The differential pressure shall be continuously measured and recorded. The differential pressure measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The differential pressure sensors shall be inspected and/or cleaned every six months. Records shall be maintained showing each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
14. The differential pressure across each catalyst (the SCR catalyst and the oxidation catalyst) shall not exceed 5 inches of water column
[Rule 204]

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15. The ammonia injection system shall be operated only when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204]
16. The ammonia injection system shall be equipped with a fully modulated automated control system tuned to minimize ammonia slip.
[Rule 204]
17. The one-hour average ammonia concentration at the outlet of the SCR unit shall not exceed 5 ppmvd at 15% oxygen when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT/LAER]
18. The fifteen-minute average NOx concentration at the outlet of the SCR unit shall not exceed 11 ppmv corrected to 15 percent oxygen when the SCR inlet temperature is above 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT]
19. The operator shall install and maintain an ammonia flow rate measuring and recording system to accurately indicate and record the ammonia injection flow rate to the selective catalytic reduction system.
[Rule 204]
20. The operator shall install and maintain a NOx (NO) analyzer to measure SCR inlet NO concentration and shall calibrate the analyzer at least annually in accordance with the manufacturer's specifications.
[Rule 204]
21. Prior to the installation and operation of an ammonia (NH3) CEMS that has been approved or certified, when the SCR is in operation, the operator shall estimate the ammonia concentration in the SCR outlet, based on one-hour average corrected to 15% oxygen from the ammonia injection flow rate, and the SCR inlet and outlet NOx emission rates and limit the estimated ammonia concentration in the SCR outlet to a maximum of 5 ppmv corrected to 15% oxygen. This analysis shall no longer be required after the installation and operation of an NH3 CEMS.
[Rule 204]
22. A data acquisition system or its equivalent shall be installed and maintained to record the following:
 - A. The date, time, and hours of operation.
 - B. The 24-hours and one-hour average NOx, and CO concentrations, in ppmv corrected to 15% O2 dry basis, at the inlet and outlet of the SCR system.
 - C. The exhaust gas inlet and outlet temperatures to the oxidation catalyst and the SCR catalyst.
 - D. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - E. The total time in minutes from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit.
 - F. The ammonia injection flow rate, pounds per hour.
 - G. The molar ratio of the ammonia flowrate to the NOx flowrate. (No longer required after the installation and operation of an NH3 CEMS).
 - H. The estimated ammonia concentration at the outlet of the SCR unit exhaust stack, .[Rule 204, Rule 3004 (a)(4)]
23. At least once each quarter after the initial start-up siloxane test results from the landfill gas conditioning and supply system have been received, the operator shall monitor and record SCR performance parameters, and perform a correlation analysis between these parameters and the siloxane levels in the landfill gas. Performance parameters include but are not limited to NOx emission readings from the CEMS units, differential pressure

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across the oxidation catalyst and SCR catalyst, ammonia injection flow rate, and the ammonia to NO_x molar ratio. This analysis shall no longer be required after the installation and operation of an NH₃ CEMS.
[Rule 204]

24. The ammonia slip source tests shall be conducted in accordance with the following:
- A. Source testing shall be conducted concurrently with the required initial source testing of the engine within 180 days after initial start-up of this equipment, then subsequently at least once every six months, unless otherwise approved in writing by South Coast AQMD.
 - B. The ammonia slip test shall be conducted using South Coast AQMD approved methods and results averaged over 1 hour.
 - C. All source tests shall be conducted in accordance with a valid South Coast AQMD approved test protocol.
 - D. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) as applicable and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - E. The contractor shall not conduct any pre-tests for compliance.
 - F. A source test protocol shall be submitted for approval no later than 60 days prior to a scheduled source test date or a valid previously South Coast AQMD approved protocol may be used for recurring source test.
 - G. No later than 14 days prior to conducting a source test, South Coast AQMD shall be notified of the scheduled source test date. If a scheduled source test is delayed, South Coast AQMD shall be notified within 24 hours from the time that an owner or operator knew of the delay. South Coast AQMD shall be notified at least 7 days prior to the rescheduled date of the source test or arrange a rescheduled date with South Coast AQMD by mutual agreement.
 - H. An owner or operator shall submit the source test report, including a description of the unit tested, to the South Coast AQMD within 60 days of completion of the source test.
 - I. Records of the ammonia slip tests shall be kept for at least five years and be made available to South Coast AQMD personnel upon request.
 - J. Ammonia slip source tests are not required when a South Coast AQMD certified ammonia CEMS is operational.

[Rule 204]

25. No later than 36 months of the date the South Coast AQMD notifies the facility of South Coast AQMD having published a Quality Assurance/Quality Control (QA/QC) Plan/certification procedures for NH₃ CEMS, the NH₃ CEMS shall be installed, operational, and certified by South Coast AQMD, unless otherwise approved by South Coast AQMD. The NH₃ CEMS shall be installed and maintained in accordance with the following:
- A. NH₃ concentration in ppmv averaged over 1 hour.
 - B. Concentrations shall be corrected to 15 percent oxygen on a dry basis.
 - C. The NH₃ CEMS shall be installed and maintained to continuously record the parameter being measured.
 - D. Continuous operation of the monitoring system is not required when required calibration, maintenance, or repair activities are performed in accordance with manufacturer's recommendations. The operator shall take all reasonable actions to minimize the time required to perform such activities. In no event, shall any such activities exceed 96 consecutive hours for any one calibration, maintenance, or repair episode.
 - E. As an alternative to installing, operating, and certifying an NH₃ CEMS no later than 36 months from notification of publication of the NH₃ CEMS QA/QC Plan/certification, the operator shall:
 - I. Continuously monitor and record:
 - a. The date, time, and hours of operation of the engine and this equipment.

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- b. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the inlet to the SCR catalyst (from the SCR controller/analyzer), if available.
 - c. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the SCR catalyst (from the SCR controller/analyzer unit with NO_x (NO) monitor).
 - d. The 24-hour, 1-hour, and 15-minute averages of NO_x concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the air pollution control system (from the NO_x CEMS).
 - e. The temperature at the inlet and outlet of the SCR catalyst and the ammonia catalyst.
 - f. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - g. The date, time, and duration of operation from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit (or manufacturer specified minimum SCR inlet temperature, if different).
 - h. The molar ratio of the ammonia flowrate to the NO_x flowrate.
 - i. Ammonia injection flow rate.
 - j. Gas flow rate to the SCR in scfm.
- II. Submit an Ammonia Slip Compliance Plan subject to approval by South Coast AQMD, within 6 months of the date from notification of publication of the NH₃ CEMS QA/QC Plan/certification. The Ammonia Slip Compliance Plan submittal shall contain but not be limited to, unless otherwise approved by South Coast AQMD:
- a. All monitoring records as required by Condition 25(E)(I).
 - b. Calibration records of temperature, differential pressure, ammonia injection flow, and engine exhaust back pressure monitoring systems.
 - c. A detailed description of the proposed ammonia usage limitation based on a ratio limit, mass balance limit, and/or other operational parameter(s) to ensure ammonia slip will not exceed the ammonia emission limit established by the permit.
 - d. A detailed description of the procedure used to develop the ammonia usage limitation including all supporting information such as monitoring and operating data and parameters, assumptions, estimates, correlations, equations used or developed, calculations; and the scientific/technical basis and rationale for the proposed procedure.
 - e. A detailed description of operating data and parameters that will be monitored to determine the ammonia usage limitation and the associated proposed recordkeeping procedures and formats of such data and parameters.
 - f. A detailed description of the procedure of how the ammonia usage limitation will be implemented into the SCR control/analyzer and ammonia injection system, and the procedure and format for how changes to the SCR control/analyzer and ammonia injection system are documented and retained.
 - g. A detailed description of the format, procedures, and schedule for recordkeeping and monitoring, sufficient to assure compliance.
 - h. A detailed description of the procedures for responding to, diagnosing and correcting breakdowns, faults, or malfunctions in the SCR control/analyzer and ammonia injection system.
 - i. A detailed description of the procedures for determining whether the ammonia usage during a breakdown, fault, or malfunction was within the parameter(s) proposed and/or approved in the Ammonia Slip Compliance Plan and how those values will be reported (missing data procedures).

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- j. A detailed description of procedures for identifying whether the proposed ammonia usage limitation is still representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
 - k. A detailed description of the proposed timeframe and procedures upon which the ammonia usage limitation will be periodically re-assessed if found to no longer be representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
- III. If the Ammonia Slip Compliance Plan is assessed to be no longer representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit, pursuant to the procedures of Condition No. 25(II)(j) the operator shall, unless otherwise approved by South Coast AQMD:
- a. Provide written notification to South Coast AQMD (Attn: Waste Management Permitting) that the Ammonia Slip Compliance Plan is no longer representative within 14 days from the date the operator has made the determination, and
 - b. Install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 24 months from the date South Coast AQMD has been notified, or
 - c. Submit a revised Ammonia Slip Compliance Plan with information containing but no limited to the information identified in Condition No. 25(E)(II), unless otherwise approved by South Coast AQMD, no later than 60 days from the date South Coast AQMD has been notified.

[Rule 204, Rule 218.2, Rule 218.3]

26. Should the Ammonia Slip Compliance Plan not be approved by South Coast AQMD within 12 months from the date of submittal, the operator shall install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 36 months from the date the Ammonia Slip Compliance Plan was submitted to South Coast AQMD.
[Rule 204]
27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
[Rule 204]

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29. All records required to demonstrate compliance with this permit shall be kept and maintained for at least five (5) years and shall be made available to South Coast AQMD personnel upon request.
[Rule 204]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
NH3: 5 ppmv @15% O2, ammonia slip, one-hour average, Rule 1303(a)(1) BACT/LAER
NH3: 0.21 lb/hr, ammonia slip, Rule 1303(b)(2) Offsets

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PERMIT TO CONSTRUCT

A/N 595664
Granted as of: TBD

Equipment Description:

Air Pollution Control System No. 2 consisting of:

1. Oxidation Catalyst, Johnson Matthey or equivalent, Model No. SC09 or equivalent, with one layer of corrugated metallic foil type platinum microporous catalyst or equivalent modules, each Approximately 1' L. x 1' W. x 0'-3.5" H., with a total volume of approximately 7.3 cubic ft.
2. Aqueous Ammonia Injection System.
3. Selective Catalytic Reduction (SCR) System with:
 - A. Catalyst Guard Bed layer, Johnson Matthey SW55 wash-coat type or equivalent, approximately 1' L. x 1' W. x 0'-4" H., with approximately 7 cubic feet volume.
 - B. SCR Catalyst, Johnson Matthey SW55 or equivalent consisting of two layers of honeycomb-type ceramic type microporous catalyst or equivalent modules, each approximately 1' L. x 1' W. x 1' H., with a total volume of approximately 47 cubic ft.
 - C. Ammonia Slip Catalyst, Johnson Matthey DW3140 or equivalent, consisting of one layer of honeycomb-type mixed metal ceramic microporous catalyst, modules, each 1' L. x 1' W. x 0'-6" H, with a total volume of approximately 12 cubic ft.
4. Exhaust Stack, 40' H. x 2' Dia.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. The NO_x and CO monitoring and ammonia injection system shall be in full operation whenever the selective catalytic reduction (SCR) system is in operation.
[Rule 204]
5. This air pollution control system shall be in full operation whenever the internal combustion engine it is venting is in operation, unless otherwise noted in this permit or the internal combustion engine permit (A/N 595660 or subsequent).
[Rule 204]
6. This equipment shall be inspected and maintained per manufacturer's specifications. Records of the inspection and maintenance of this equipment shall be maintained and be retained for at least five years and be made available the South Coast AQMD personnel upon request.
[Rule 204]

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7. During the first catalyst replacement and/or overhaul during which the SCR is shutdown, the operator shall sample each catalyst type (Oxidation, SCR, and Ammonia) and shall analyze catalyst activity/health, unless otherwise approved in writing by South Coast AQMD. The results shall be submitted to the South Coast AQMD (Attention Waste Management Permitting) within 60 days of the sampling event.
[Rule 204]
8. An adequate number of sampling ports shall be installed and maintained at the inlet and outlet of the air pollution control system in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217]
9. An adequate number of sampling ports shall be installed and maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g. elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon written approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
10. The operator shall install and maintain temperature measuring and recording system(s) to accurately measure and record the temperature in degrees Fahrenheit at the inlet and outlet of the oxidation catalyst, SCR catalyst and ammonia catalyst. The temperatures shall be continuously measured and recorded. The temperature measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The temperature sensors shall be inspected and/or cleaned every six months. Records shall be maintained indicating each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
11. The minimum temperature of the engine exhaust at the inlet of the SCR unit shall be at least 550 degrees Fahrenheit. The period during which the temperature of exhaust gases entering the SCR Unit is less than 550 degrees Fahrenheit shall not exceed 30 minutes for each cold start-up and shutdown.
[Rule 204, 1110.2]
12. The maximum temperature of the exhaust gases entering the SCR unit shall not exceed 860 degrees Fahrenheit.
[Rule 204]
13. The operator shall install and maintain differential pressure measuring and recording system(s) to accurately indicate the differential pressure in inches of water column across the SCR catalyst and across the oxidation catalyst. The differential pressure shall be continuously measured and recorded. The differential pressure measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The differential pressure sensors shall be inspected and/or cleaned every six months. Records shall be maintained showing each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
14. The differential pressure across each catalyst (the SCR catalyst and the oxidation catalyst) shall not exceed 5 inches of water column
[Rule 204]

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15. The ammonia injection system shall be operated only when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204]
16. The ammonia injection system shall be equipped with a fully modulated automated control system tuned to minimize ammonia slip.
[Rule 204]
17. The one-hour average ammonia concentration at the outlet of the SCR unit shall not exceed 5 ppmvd at 15% oxygen when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT/LAER]
18. The fifteen-minute average NOx concentration at the outlet of the SCR unit shall not exceed 11 ppmv corrected to 15 percent oxygen when the SCR inlet temperature is above 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT]
19. The operator shall install and maintain an ammonia flow rate measuring and recording system to accurately indicate and record the ammonia injection flow rate to the selective catalytic reduction system.
[Rule 204]
20. The operator shall install and maintain a NOx (NO) analyzer to measure SCR inlet NO concentration and shall calibrate the analyzer at least annually in accordance with the manufacturer's specifications.
[Rule 204]
21. Prior to the installation and operation of an ammonia (NH3) CEMS that has been approved or certified, when the SCR is in operation, the operator shall estimate the ammonia concentration in the SCR outlet, based on one-hour average corrected to 15% oxygen from the ammonia injection flow rate, and the SCR inlet and outlet NOx emission rates and limit the estimated ammonia concentration in the SCR outlet to a maximum of 5 ppmv corrected to 15% oxygen. This analysis shall no longer be required after the installation and operation of an NH3 CEMS.
[Rule 204]
22. A data acquisition system or its equivalent shall be installed and maintained to record the following:
 - A. The date, time, and hours of operation.
 - B. The 24-hours and one-hour average NOx, and CO concentrations, in ppmv corrected to 15% O2 dry basis, at the inlet and outlet of the SCR system.
 - C. The exhaust gas inlet and outlet temperatures to the oxidation catalyst and the SCR catalyst.
 - D. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - E. The total time in minutes from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit.
 - F. The ammonia injection flow rate, pounds per hour.
 - G. The molar ratio of the ammonia flowrate to the NOx flowrate. (No longer required after the installation and operation of an NH3 CEMS).
 - H. The estimated ammonia concentration at the outlet of the SCR unit exhaust stack, .[Rule 204, Rule 3004 (a)(4)]
23. At least once each quarter after the initial start-up siloxane test results from the landfill gas conditioning and supply system have been received, the operator shall monitor and record SCR performance parameters, and perform a correlation analysis between these parameters and the siloxane levels in the landfill gas. Performance parameters include but are not limited to NOx emission readings from the CEMS units, differential pressure

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across the oxidation catalyst and SCR catalyst, ammonia injection flow rate, and the ammonia to NO_x molar ratio. This analysis shall no longer be required after the installation and operation of an NH₃ CEMS.
[Rule 204]

24. The ammonia slip source tests shall be conducted in accordance with the following:
- A. Source testing shall be conducted concurrently with the required initial source testing of the engine within 180 days after initial start-up of this equipment, then subsequently at least once every six months, unless otherwise approved in writing by South Coast AQMD.
 - B. The ammonia slip test shall be conducted using South Coast AQMD approved methods and results averaged over 1 hour.
 - C. All source tests shall be conducted in accordance with a valid South Coast AQMD approved test protocol.
 - D. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) as applicable and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - E. The contractor shall not conduct any pre-tests for compliance.
 - F. A source test protocol shall be submitted for approval no later than 60 days prior to a scheduled source test date or a valid previously South Coast AQMD approved protocol may be used for recurring source test.
 - G. No later than 14 days prior to conducting a source test, South Coast AQMD shall be notified of the scheduled source test date. If a scheduled source test is delayed, South Coast AQMD shall be notified within 24 hours from the time that an owner or operator knew of the delay. South Coast AQMD shall be notified at least 7 days prior to the rescheduled date of the source test or arrange a rescheduled date with South Coast AQMD by mutual agreement.
 - H. An owner or operator shall submit the source test report, including a description of the unit tested, to the South Coast AQMD within 60 days of completion of the source test.
 - I. Records of the ammonia slip tests shall be kept for at least five years and be made available to South Coast AQMD personnel upon request.
 - J. Ammonia slip source tests are not required when a South Coast AQMD certified ammonia CEMS is operational.

[Rule 204]

25. No later than 36 months of the date the South Coast AQMD notifies the facility of South Coast AQMD having published a Quality Assurance/Quality Control (QA/QC) Plan/certification procedures for NH₃ CEMS, the NH₃ CEMS shall be installed, operational, and certified by South Coast AQMD, unless otherwise approved by South Coast AQMD. The NH₃ CEMS shall be installed and maintained in accordance with the following:
- A. NH₃ concentration in ppmv averaged over 1 hour.
 - B. Concentrations shall be corrected to 15 percent oxygen on a dry basis.
 - C. The NH₃ CEMS shall be installed and maintained to continuously record the parameter being measured.
 - D. Continuous operation of the monitoring system is not required when required calibration, maintenance, or repair activities are performed in accordance with manufacturer's recommendations. The operator shall take all reasonable actions to minimize the time required to perform such activities. In no event, shall any such activities exceed 96 consecutive hours for any one calibration, maintenance, or repair episode.
 - E. As an alternative to installing, operating, and certifying an NH₃ CEMS no later than 36 months from notification of publication of the NH₃ CEMS QA/QC Plan/certification, the operator shall:
 - I. Continuously monitor and record:
 - a. The date, time, and hours of operation of the engine and this equipment.

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- b. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the inlet to the SCR catalyst (from the SCR controller/analyzer), if available.
 - c. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the SCR catalyst (from the SCR controller/analyzer unit with NO_x (NO) monitor).
 - d. The 24-hour, 1-hour, and 15-minute averages of NO_x concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the air pollution control system (from the NO_x CEMS).
 - e. The temperature at the inlet and outlet of the SCR catalyst and the ammonia catalyst.
 - f. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - g. The date, time, and duration of operation from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit (or manufacturer specified minimum SCR inlet temperature, if different).
 - h. The molar ratio of the ammonia flowrate to the NO_x flowrate.
 - i. Ammonia injection flow rate.
 - j. Gas flow rate to the SCR in scfm.
- II. Submit an Ammonia Slip Compliance Plan subject to approval by South Coast AQMD, within 6 months of the date from notification of publication of the NH₃ CEMS QA/QC Plan/certification. The Ammonia Slip Compliance Plan submittal shall contain but not be limited to, unless otherwise approved by South Coast AQMD:
- a. All monitoring records as required by Condition 25(E)(I).
 - b. Calibration records of temperature, differential pressure, ammonia injection flow, and engine exhaust back pressure monitoring systems.
 - c. A detailed description of the proposed ammonia usage limitation based on a ratio limit, mass balance limit, and/or other operational parameter(s) to ensure ammonia slip will not exceed the ammonia emission limit established by the permit.
 - d. A detailed description of the procedure used to develop the ammonia usage limitation including all supporting information such as monitoring and operating data and parameters, assumptions, estimates, correlations, equations used or developed, calculations; and the scientific/technical basis and rationale for the proposed procedure.
 - e. A detailed description of operating data and parameters that will be monitored to determine the ammonia usage limitation and the associated proposed recordkeeping procedures and formats of such data and parameters.
 - f. A detailed description of the procedure of how the ammonia usage limitation will be implemented into the SCR control/analyzer and ammonia injection system, and the procedure and format for how changes to the SCR control/analyzer and ammonia injection system are documented and retained.
 - g. A detailed description of the format, procedures, and schedule for recordkeeping and monitoring, sufficient to assure compliance.
 - h. A detailed description of the procedures for responding to, diagnosing and correcting breakdowns, faults, or malfunctions in the SCR control/analyzer and ammonia injection system.
 - i. A detailed description of the procedures for determining whether the ammonia usage during a breakdown, fault, or malfunction was within the parameter(s) proposed and/or approved in the Ammonia Slip Compliance Plan and how those values will be reported (missing data procedures).

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- j. A detailed description of procedures for identifying whether the proposed ammonia usage limitation is still representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
 - k. A detailed description of the proposed timeframe and procedures upon which the ammonia usage limitation will be periodically re-assessed if found to no longer be representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
- III. If the Ammonia Slip Compliance Plan is assessed to be no longer representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit, pursuant to the procedures of Condition No. 25(II)(j) the operator shall, unless otherwise approved by South Coast AQMD:
- a. Provide written notification to South Coast AQMD (Attn: Waste Management Permitting) that the Ammonia Slip Compliance Plan is no longer representative within 14 days from the date the operator has made the determination, and
 - b. Install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 24 months from the date South Coast AQMD has been notified, or
 - c. Submit a revised Ammonia Slip Compliance Plan with information containing but no limited to the information identified in Condition No. 25(E)(II), unless otherwise approved by South Coast AQMD, no later than 60 days from the date South Coast AQMD has been notified.

[Rule 204, Rule 218.2, Rule 218.3]

26. Should the Ammonia Slip Compliance Plan not be approved by South Coast AQMD within 12 months from the date of submittal, the operator shall install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 36 months from the date the Ammonia Slip Compliance Plan was submitted to South Coast AQMD.
[Rule 204]
27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
[Rule 204]

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29. All records required to demonstrate compliance with this permit shall be kept and maintained for at least five (5) years and shall be made available to South Coast AQMD personnel upon request.
[Rule 204]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
NH3: 5 ppmv @15% O₂, ammonia slip, one-hour average, Rule 1303(a)(1) BACT/LAER
NH3: 0.21 lb/hr, ammonia slip, Rule 1303(b)(2) Offsets

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PERMIT TO CONSTRUCT

A/N 595665
Granted as of: TBD

Equipment Description:

Air Pollution Control System No. 3 consisting of:

1. Oxidation Catalyst, Johnson Matthey or equivalent, Model No. SC09 or equivalent, with one layer of corrugated metallic foil type platinum microporous catalyst or equivalent modules, each Approximately 1' L. x 1' W. x 0'-3.5" H., with a total volume of approximately 7.3 cubic ft.
2. Aqueous Ammonia Injection System.
3. Selective Catalytic Reduction (SCR) System with:
 - A. Catalyst Guard Bed layer, Johnson Matthey SW55 wash-coat type or equivalent, approximately 1' L. x 1' W. x 0'-4" H., with approximately 7 cubic feet volume.
 - B. SCR Catalyst, Johnson Matthey SW55 or equivalent consisting of two layers of honeycomb-type ceramic type microporous catalyst or equivalent modules, each approximately 1' L. x 1' W. x 1' H., with a total volume of approximately 47 cubic ft.
 - C. Ammonia Slip Catalyst, Johnson Matthey DW3140 or equivalent, consisting of one layer of honeycomb-type mixed metal ceramic microporous catalyst, modules, each 1' L. x 1' W. x 0'-6" H., with a total volume of approximately 12 cubic ft.
4. Exhaust Stack, 40' H. x 2' Dia.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. The NO_x and CO monitoring and ammonia injection system shall be in full operation whenever the selective catalytic reduction (SCR) system is in operation.
[Rule 204]
5. This air pollution control system shall be in full operation whenever the internal combustion engine it is venting is in operation, unless otherwise noted in this permit or the internal combustion engine permit (A/N 595661 or subsequent).
[Rule 204]
6. This equipment shall be inspected and maintained per manufacturer's specifications. Records of the inspection and maintenance of this equipment shall be maintained and be retained for at least five years and be made available the South Coast AQMD personnel upon request.
[Rule 204]

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7. During the first catalyst replacement and/or overhaul during which the SCR is shutdown, the operator shall sample each catalyst type (Oxidation, SCR, and Ammonia) and shall analyze catalyst activity/health, unless otherwise approved in writing by South Coast AQMD. The results shall be submitted to the South Coast AQMD (Attention Waste Management Permitting) within 60 days of the sampling event.
[Rule 204]
8. An adequate number of sampling ports shall be installed and maintained at the inlet and outlet of the air pollution control system in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217]
9. An adequate number of sampling ports shall be installed and maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g. elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon written approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
10. The operator shall install and maintain temperature measuring and recording system(s) to accurately measure and record the temperature in degrees Fahrenheit at the inlet and outlet of the oxidation catalyst, SCR catalyst and ammonia catalyst. The temperatures shall be continuously measured and recorded. The temperature measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The temperature sensors shall be inspected and/or cleaned every six months. Records shall be maintained indicating each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
11. The minimum temperature of the engine exhaust at the inlet of the SCR unit shall be at least 550 degrees Fahrenheit. The period during which the temperature of exhaust gases entering the SCR Unit is less than 550 degrees Fahrenheit shall not exceed 30 minutes for each cold start-up and shutdown.
[Rule 204, 1110.2]
12. The maximum temperature of the exhaust gases entering the SCR unit shall not exceed 860 degrees Fahrenheit.
[Rule 204]
13. The operator shall install and maintain differential pressure measuring and recording system(s) to accurately indicate the differential pressure in inches of water column across the SCR catalyst and across the oxidation catalyst. The differential pressure shall be continuously measured and recorded. The differential pressure measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The differential pressure sensors shall be inspected and/or cleaned every six months. Records shall be maintained showing each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
14. The differential pressure across each catalyst (the SCR catalyst and the oxidation catalyst) shall not exceed 5 inches of water column
[Rule 204]

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15. The ammonia injection system shall be operated only when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204]
16. The ammonia injection system shall be equipped with a fully modulated automated control system tuned to minimize ammonia slip.
[Rule 204]
17. The one-hour average ammonia concentration at the outlet of the SCR unit shall not exceed 5 ppmvd at 15% oxygen when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT/LAER]
18. The fifteen-minute average NOx concentration at the outlet of the SCR unit shall not exceed 11 ppmv corrected to 15 percent oxygen when the SCR inlet temperature is above 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT]
19. The operator shall install and maintain an ammonia flow rate measuring and recording system to accurately indicate and record the ammonia injection flow rate to the selective catalytic reduction system.
[Rule 204]
20. The operator shall install and maintain a NOx (NO) analyzer to measure SCR inlet NO concentration and shall calibrate the analyzer at least annually in accordance with the manufacturer's specifications.
[Rule 204]
21. Prior to the installation and operation of an ammonia (NH3) CEMS that has been approved or certified, when the SCR is in operation, the operator shall estimate the ammonia concentration in the SCR outlet, based on one-hour average corrected to 15% oxygen from the ammonia injection flow rate, and the SCR inlet and outlet NOx emission rates and limit the estimated ammonia concentration in the SCR outlet to a maximum of 5 ppmv corrected to 15% oxygen. This analysis shall no longer be required after the installation and operation of an NH3 CEMS.
[Rule 204]
22. A data acquisition system or its equivalent shall be installed and maintained to record the following:
 - A. The date, time, and hours of operation.
 - B. The 24-hours and one-hour average NOx, and CO concentrations, in ppmv corrected to 15% O2 dry basis, at the inlet and outlet of the SCR system.
 - C. The exhaust gas inlet and outlet temperatures to the oxidation catalyst and the SCR catalyst.
 - D. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - E. The total time in minutes from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit.
 - F. The ammonia injection flow rate, pounds per hour.
 - G. The molar ratio of the ammonia flowrate to the NOx flowrate. (No longer required after the installation and operation of an NH3 CEMS).
 - H. The estimated ammonia concentration at the outlet of the SCR unit exhaust stack, .[Rule 204, Rule 3004 (a)(4)]
23. At least once each quarter after the initial start-up siloxane test results from the landfill gas conditioning and supply system have been received, the operator shall monitor and record SCR performance parameters, and perform a correlation analysis between these parameters and the siloxane levels in the landfill gas. Performance parameters include but are not limited to NOx emission readings from the CEMS units, differential pressure

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across the oxidation catalyst and SCR catalyst, ammonia injection flow rate, and the ammonia to NO_x molar ratio. This analysis shall no longer be required after the installation and operation of an NH₃ CEMS.
[Rule 204]

24. The ammonia slip source tests shall be conducted in accordance with the following:
- A. Source testing shall be conducted concurrently with the required initial source testing of the engine within 180 days after initial start-up of this equipment, then subsequently at least once every six months, unless otherwise approved in writing by South Coast AQMD.
 - B. The ammonia slip test shall be conducted using South Coast AQMD approved methods and results averaged over 1 hour.
 - C. All source tests shall be conducted in accordance with a valid South Coast AQMD approved test protocol.
 - D. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) as applicable and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - E. The contractor shall not conduct any pre-tests for compliance.
 - F. A source test protocol shall be submitted for approval no later than 60 days prior to a scheduled source test date or a valid previously South Coast AQMD approved protocol may be used for recurring source test.
 - G. No later than 14 days prior to conducting a source test, South Coast AQMD shall be notified of the scheduled source test date. If a scheduled source test is delayed, South Coast AQMD shall be notified within 24 hours from the time that an owner or operator knew of the delay. South Coast AQMD shall be notified at least 7 days prior to the rescheduled date of the source test or arrange a rescheduled date with South Coast AQMD by mutual agreement.
 - H. An owner or operator shall submit the source test report, including a description of the unit tested, to the South Coast AQMD within 60 days of completion of the source test.
 - I. Records of the ammonia slip tests shall be kept for at least five years and be made available to South Coast AQMD personnel upon request.
 - J. Ammonia slip source tests are not required when a South Coast AQMD certified ammonia CEMS is operational.

[Rule 204]

25. No later than 36 months of the date the South Coast AQMD notifies the facility of South Coast AQMD having published a Quality Assurance/Quality Control (QA/QC) Plan/certification procedures for NH₃ CEMS, the NH₃ CEMS shall be installed, operational, and certified by South Coast AQMD, unless otherwise approved by South Coast AQMD. The NH₃ CEMS shall be installed and maintained in accordance with the following:
- A. NH₃ concentration in ppmv averaged over 1 hour.
 - B. Concentrations shall be corrected to 15 percent oxygen on a dry basis.
 - C. The NH₃ CEMS shall be installed and maintained to continuously record the parameter being measured.
 - D. Continuous operation of the monitoring system is not required when required calibration, maintenance, or repair activities are performed in accordance with manufacturer's recommendations. The operator shall take all reasonable actions to minimize the time required to perform such activities. In no event, shall any such activities exceed 96 consecutive hours for any one calibration, maintenance, or repair episode.
 - E. As an alternative to installing, operating, and certifying an NH₃ CEMS no later than 36 months from notification of publication of the NH₃ CEMS QA/QC Plan/certification, the operator shall:
 - I. Continuously monitor and record:
 - a. The date, time, and hours of operation of the engine and this equipment.

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- b. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the inlet to the SCR catalyst (from the SCR controller/analyzer), if available.
 - c. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the SCR catalyst (from the SCR controller/analyzer unit with NO_x (NO) monitor).
 - d. The 24-hour, 1-hour, and 15-minute averages of NO_x concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the air pollution control system (from the NO_x CEMS).
 - e. The temperature at the inlet and outlet of the SCR catalyst and the ammonia catalyst.
 - f. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - g. The date, time, and duration of operation from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit (or manufacturer specified minimum SCR inlet temperature, if different).
 - h. The molar ratio of the ammonia flowrate to the NO_x flowrate.
 - i. Ammonia injection flow rate.
 - j. Gas flow rate to the SCR in scfm.
- II. Submit an Ammonia Slip Compliance Plan subject to approval by South Coast AQMD, within 6 months of the date from notification of publication of the NH₃ CEMS QA/QC Plan/certification. The Ammonia Slip Compliance Plan submittal shall contain but not be limited to, unless otherwise approved by South Coast AQMD:
- a. All monitoring records as required by Condition 25(E)(I).
 - b. Calibration records of temperature, differential pressure, ammonia injection flow, and engine exhaust back pressure monitoring systems.
 - c. A detailed description of the proposed ammonia usage limitation based on a ratio limit, mass balance limit, and/or other operational parameter(s) to ensure ammonia slip will not exceed the ammonia emission limit established by the permit.
 - d. A detailed description of the procedure used to develop the ammonia usage limitation including all supporting information such as monitoring and operating data and parameters, assumptions, estimates, correlations, equations used or developed, calculations; and the scientific/technical basis and rationale for the proposed procedure.
 - e. A detailed description of operating data and parameters that will be monitored to determine the ammonia usage limitation and the associated proposed recordkeeping procedures and formats of such data and parameters.
 - f. A detailed description of the procedure of how the ammonia usage limitation will be implemented into the SCR control/analyzer and ammonia injection system, and the procedure and format for how changes to the SCR control/analyzer and ammonia injection system are documented and retained.
 - g. A detailed description of the format, procedures, and schedule for recordkeeping and monitoring, sufficient to assure compliance.
 - h. A detailed description of the procedures for responding to, diagnosing and correcting breakdowns, faults, or malfunctions in the SCR control/analyzer and ammonia injection system.
 - i. A detailed description of the procedures for determining whether the ammonia usage during a breakdown, fault, or malfunction was within the parameter(s) proposed and/or approved in the Ammonia Slip Compliance Plan and how those values will be reported (missing data procedures).

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- j. A detailed description of procedures for identifying whether the proposed ammonia usage limitation is still representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
 - k. A detailed description of the proposed timeframe and procedures upon which the ammonia usage limitation will be periodically re-assessed if found to no longer be representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
- III. If the Ammonia Slip Compliance Plan is assessed to be no longer representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit, pursuant to the procedures of Condition No. 25(II)(j) the operator shall, unless otherwise approved by South Coast AQMD:
- a. Provide written notification to South Coast AQMD (Attn: Waste Management Permitting) that the Ammonia Slip Compliance Plan is no longer representative within 14 days from the date the operator has made the determination, and
 - b. Install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 24 months from the date South Coast AQMD has been notified, or
 - c. Submit a revised Ammonia Slip Compliance Plan with information containing but no limited to the information identified in Condition No. 25(E)(II), unless otherwise approved by South Coast AQMD, no later than 60 days from the date South Coast AQMD has been notified.

[Rule 204, Rule 218.2, Rule 218.3]

26. Should the Ammonia Slip Compliance Plan not be approved by South Coast AQMD within 12 months from the date of submittal, the operator shall install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 36 months from the date the Ammonia Slip Compliance Plan was submitted to South Coast AQMD.
[Rule 204]
27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
[Rule 204]

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29. All records required to demonstrate compliance with this permit shall be kept and maintained for at least five (5) years and shall be made available to South Coast AQMD personnel upon request.
[Rule 204]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
NH3: 5 ppmv @15% O₂, ammonia slip, one-hour average, Rule 1303(a)(1) BACT/LAER
NH3: 0.21 lb/hr, ammonia slip, Rule 1303(b)(2) Offsets

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PERMIT TO CONSTRUCT

A/N 565666
Granted as of: TBD

Equipment Description:

Air Pollution Control System No. 4 consisting of:

1. Oxidation Catalyst, Johnson Matthey or equivalent, Model No. SC09 or equivalent, with one layer of corrugated metallic foil type platinum microporous catalyst or equivalent modules, each Approximately 1' L. x 1' W. x 0'-3.5" H., with a total volume of approximately 7.3 cubic ft.
2. Aqueous Ammonia Injection System.
3. Selective Catalytic Reduction (SCR) System with:
 - A. Catalyst Guard Bed layer, Johnson Matthey SW55 wash-coat type or equivalent, approximately 1' L. x 1' W. x 0'-4" H., with approximately 7 cubic feet volume.
 - B. SCR Catalyst, Johnson Matthey SW55 or equivalent consisting of two layers of honeycomb-type ceramic type microporous catalyst or equivalent modules, each approximately 1' L. x 1' W. x 1' H., with a total volume of approximately 47 cubic ft.
 - C. Ammonia Slip Catalyst, Johnson Matthey DW3140 or equivalent, consisting of one layer of honeycomb-type mixed metal ceramic microporous catalyst, modules, each 1' L. x 1' W. x 0'-6" H., with a total volume of approximately 12 cubic ft.
4. Exhaust Stack, 40' H. x 2' Dia.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. The NO_x and CO monitoring and ammonia injection system shall be in full operation whenever the selective catalytic reduction (SCR) system is in operation.
[Rule 204]
5. This air pollution control system shall be in full operation whenever the internal combustion engine it is venting is in operation, unless otherwise noted in this permit or the internal combustion engine permit (A/N 595662 or subsequent).
[Rule 204]
6. This equipment shall be inspected and maintained per manufacturer's specifications. Records of the inspection and maintenance of this equipment shall be maintained and be retained for at least five years and be made available the South Coast AQMD personnel upon request.
[Rule 204]

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7. During the first catalyst replacement and/or overhaul during which the SCR is shutdown, the operator shall sample each catalyst type (Oxidation, SCR, and Ammonia) and shall analyze catalyst activity/health, unless otherwise approved in writing by South Coast AQMD. The results shall be submitted to the South Coast AQMD (Attention Waste Management Permitting) within 60 days of the sampling event.
[Rule 204]
8. An adequate number of sampling ports shall be installed and maintained at the inlet and outlet of the air pollution control system in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, 217]
9. An adequate number of sampling ports shall be installed and maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g. elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon written approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast AQMD.
[Rule 204, 217]
10. The operator shall install and maintain temperature measuring and recording system(s) to accurately measure and record the temperature in degrees Fahrenheit at the inlet and outlet of the oxidation catalyst, SCR catalyst and ammonia catalyst. The temperatures shall be continuously measured and recorded. The temperature measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The temperature sensors shall be inspected and/or cleaned every six months. Records shall be maintained indicating each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
11. The minimum temperature of the engine exhaust at the inlet of the SCR unit shall be at least 550 degrees Fahrenheit. The period during which the temperature of exhaust gases entering the SCR Unit is less than 550 degrees Fahrenheit shall not exceed 30 minutes for each cold start-up and shutdown.
[Rule 204, 1110.2]
12. The maximum temperature of the exhaust gases entering the SCR unit shall not exceed 860 degrees Fahrenheit.
[Rule 204]
13. The operator shall install and maintain differential pressure measuring and recording system(s) to accurately indicate the differential pressure in inches of water column across the SCR catalyst and across the oxidation catalyst. The differential pressure shall be continuously measured and recorded. The differential pressure measuring devices shall be accurate to within plus or minus 5 percent and shall be calibrated at least once every twelve months. The differential pressure sensors shall be inspected and/or cleaned every six months. Records shall be maintained showing each cleaning/inspection and replacement/calibration of the device. Revised cleaning and/or calibration schedules may be re-assessed after two years of operational records are provided.
[Rule 204]
14. The differential pressure across each catalyst (the SCR catalyst and the oxidation catalyst) shall not exceed 5 inches of water column
[Rule 204]

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15. The ammonia injection system shall be operated only when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204]
16. The ammonia injection system shall be equipped with a fully modulated automated control system tuned to minimize ammonia slip.
[Rule 204]
17. The one-hour average ammonia concentration at the outlet of the SCR unit shall not exceed 5 ppmvd at 15% oxygen when the SCR inlet temperature is greater than or equal to 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT/LAER]
18. The fifteen-minute average NOx concentration at the outlet of the SCR unit shall not exceed 11 ppmv corrected to 15 percent oxygen when the SCR inlet temperature is above 550 degrees Fahrenheit.
[Rule 204, 1303(a)(1) BACT]
19. The operator shall install and maintain an ammonia flow rate measuring and recording system to accurately indicate and record the ammonia injection flow rate to the selective catalytic reduction system.
[Rule 204]
20. The operator shall install and maintain a NOx (NO) analyzer to measure SCR inlet NO concentration and shall calibrate the analyzer at least annually in accordance with the manufacturer's specifications.
[Rule 204]
21. Prior to the installation and operation of an ammonia (NH3) CEMS that has been approved or certified, when the SCR is in operation, the operator shall estimate the ammonia concentration in the SCR outlet, based on one-hour average corrected to 15% oxygen from the ammonia injection flow rate, and the SCR inlet and outlet NOx emission rates and limit the estimated ammonia concentration in the SCR outlet to a maximum of 5 ppmv corrected to 15% oxygen. This analysis shall no longer be required after the installation and operation of an NH3 CEMS.
[Rule 204]
22. A data acquisition system or its equivalent shall be installed and maintained to record the following:
 - A. The date, time, and hours of operation.
 - B. The 24-hours and one-hour average NOx, and CO concentrations, in ppmv corrected to 15% O2 dry basis, at the inlet and outlet of the SCR system.
 - C. The exhaust gas inlet and outlet temperatures to the oxidation catalyst and the SCR catalyst.
 - D. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - E. The total time in minutes from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit.
 - F. The ammonia injection flow rate, pounds per hour.
 - G. The molar ratio of the ammonia flowrate to the NOx flowrate. (No longer required after the installation and operation of an NH3 CEMS).
 - H. The estimated ammonia concentration at the outlet of the SCR unit exhaust stack, .[Rule 204, Rule 3004 (a)(4)]
23. At least once each quarter after the initial start-up siloxane test results from the landfill gas conditioning and supply system have been received, the operator shall monitor and record SCR performance parameters, and perform a correlation analysis between these parameters and the siloxane levels in the landfill gas. Performance parameters include but are not limited to NOx emission readings from the CEMS units, differential pressure

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across the oxidation catalyst and SCR catalyst, ammonia injection flow rate, and the ammonia to NO_x molar ratio. This analysis shall no longer be required after the installation and operation of an NH₃ CEMS.
[Rule 204]

24. The ammonia slip source tests shall be conducted in accordance with the following:
- A. Source testing shall be conducted concurrently with the required initial source testing of the engine within 180 days after initial start-up of this equipment, then subsequently at least once every six months, unless otherwise approved in writing by South Coast AQMD.
 - B. The ammonia slip test shall be conducted using South Coast AQMD approved methods and results averaged over 1 hour.
 - C. All source tests shall be conducted in accordance with a valid South Coast AQMD approved test protocol.
 - D. Testing shall be conducted by an approved contractor under the South Coast AQMD Laboratory Approval Program (LAP) as applicable and in compliance with South Coast AQMD Rule 304 (No Conflict of Interest).
 - E. The contractor shall not conduct any pre-tests for compliance.
 - F. A source test protocol shall be submitted for approval no later than 60 days prior to a scheduled source test date or a valid previously South Coast AQMD approved protocol may be used for recurring source test.
 - G. No later than 14 days prior to conducting a source test, South Coast AQMD shall be notified of the scheduled source test date. If a scheduled source test is delayed, South Coast AQMD shall be notified within 24 hours from the time that an owner or operator knew of the delay. South Coast AQMD shall be notified at least 7 days prior to the rescheduled date of the source test or arrange a rescheduled date with South Coast AQMD by mutual agreement.
 - H. An owner or operator shall submit the source test report, including a description of the unit tested, to the South Coast AQMD within 60 days of completion of the source test.
 - I. Records of the ammonia slip tests shall be kept for at least five years and be made available to South Coast AQMD personnel upon request.
 - J. Ammonia slip source tests are not required when a South Coast AQMD certified ammonia CEMS is operational.

[Rule 204]

25. No later than 36 months of the date the South Coast AQMD notifies the facility of South Coast AQMD having published a Quality Assurance/Quality Control (QA/QC) Plan/certification procedures for NH₃ CEMS, the NH₃ CEMS shall be installed, operational, and certified by South Coast AQMD, unless otherwise approved by South Coast AQMD. The NH₃ CEMS shall be installed and maintained in accordance with the following:
- A. NH₃ concentration in ppmv averaged over 1 hour.
 - B. Concentrations shall be corrected to 15 percent oxygen on a dry basis.
 - C. The NH₃ CEMS shall be installed and maintained to continuously record the parameter being measured.
 - D. Continuous operation of the monitoring system is not required when required calibration, maintenance, or repair activities are performed in accordance with manufacturer's recommendations. The operator shall take all reasonable actions to minimize the time required to perform such activities. In no event, shall any such activities exceed 96 consecutive hours for any one calibration, maintenance, or repair episode.
 - E. As an alternative to installing, operating, and certifying an NH₃ CEMS no later than 36 months from notification of publication of the NH₃ CEMS QA/QC Plan/certification, the operator shall:
 - I. Continuously monitor and record:
 - a. The date, time, and hours of operation of the engine and this equipment.

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- b. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the inlet to the SCR catalyst (from the SCR controller/analyzer), if available.
 - c. The 24-hour, 1-hour, and 15-minute averages of NO_x (NO) concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the SCR catalyst (from the SCR controller/analyzer unit with NO_x (NO) monitor).
 - d. The 24-hour, 1-hour, and 15-minute averages of NO_x concentration in ppmv and ppmv corrected to 15% O₂ dry basis, at the outlet of the air pollution control system (from the NO_x CEMS).
 - e. The temperature at the inlet and outlet of the SCR catalyst and the ammonia catalyst.
 - f. The differential pressure in inches of water column across the oxidation catalyst and the SCR catalyst.
 - g. The date, time, and duration of operation from cold start-up to reach SCR inlet temperature of 550 degrees Fahrenheit (or manufacturer specified minimum SCR inlet temperature, if different).
 - h. The molar ratio of the ammonia flowrate to the NO_x flowrate.
 - i. Ammonia injection flow rate.
 - j. Gas flow rate to the SCR in scfm.
- II. Submit an Ammonia Slip Compliance Plan subject to approval by South Coast AQMD, within 6 months of the date from notification of publication of the NH₃ CEMS QA/QC Plan/certification. The Ammonia Slip Compliance Plan submittal shall contain but not be limited to, unless otherwise approved by South Coast AQMD:
- a. All monitoring records as required by Condition 25(E)(I).
 - b. Calibration records of temperature, differential pressure, ammonia injection flow, and engine exhaust back pressure monitoring systems.
 - c. A detailed description of the proposed ammonia usage limitation based on a ratio limit, mass balance limit, and/or other operational parameter(s) to ensure ammonia slip will not exceed the ammonia emission limit established by the permit.
 - d. A detailed description of the procedure used to develop the ammonia usage limitation including all supporting information such as monitoring and operating data and parameters, assumptions, estimates, correlations, equations used or developed, calculations; and the scientific/technical basis and rationale for the proposed procedure.
 - e. A detailed description of operating data and parameters that will be monitored to determine the ammonia usage limitation and the associated proposed recordkeeping procedures and formats of such data and parameters.
 - f. A detailed description of the procedure of how the ammonia usage limitation will be implemented into the SCR control/analyzer and ammonia injection system, and the procedure and format for how changes to the SCR control/analyzer and ammonia injection system are documented and retained.
 - g. A detailed description of the format, procedures, and schedule for recordkeeping and monitoring, sufficient to assure compliance.
 - h. A detailed description of the procedures for responding to, diagnosing and correcting breakdowns, faults, or malfunctions in the SCR control/analyzer and ammonia injection system.
 - i. A detailed description of the procedures for determining whether the ammonia usage during a breakdown, fault, or malfunction was within the parameter(s) proposed and/or approved in the Ammonia Slip Compliance Plan and how those values will be reported (missing data procedures).

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- j. A detailed description of procedures for identifying whether the proposed ammonia usage limitation is still representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
 - k. A detailed description of the proposed timeframe and procedures upon which the ammonia usage limitation will be periodically re-assessed if found to no longer be representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit.
- III. If the Ammonia Slip Compliance Plan is assessed to be no longer representative for ensuring ammonia slip will not exceed the ammonia emission limit established by the permit, pursuant to the procedures of Condition No. 25(II)(j) the operator shall, unless otherwise approved by South Coast AQMD:
- a. Provide written notification to South Coast AQMD (Attn: Waste Management Permitting) that the Ammonia Slip Compliance Plan is no longer representative within 14 days from the date the operator has made the determination, and
 - b. Install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 24 months from the date South Coast AQMD has been notified, or
 - c. Submit a revised Ammonia Slip Compliance Plan with information containing but no limited to the information identified in Condition No. 25(E)(II), unless otherwise approved by South Coast AQMD, no later than 60 days from the date South Coast AQMD has been notified.

[Rule 204, Rule 218.2, Rule 218.3]

26. Should the Ammonia Slip Compliance Plan not be approved by South Coast AQMD within 12 months from the date of submittal, the operator shall install, operate, and obtain certification by South Coast AQMD for an NH₃ CEMS that satisfies Condition No. 25(A through C) no later than 36 months from the date the Ammonia Slip Compliance Plan was submitted to South Coast AQMD.
[Rule 204]
27. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
28. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
[Rule 204]

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29. All records required to demonstrate compliance with this permit shall be kept and maintained for at least five (5) years and shall be made available to South Coast AQMD personnel upon request.
[Rule 204]

Emissions and Requirements:

30. This equipment is subject to the applicable requirements of the following Rules and Regulations:
NH3: 5 ppmv @15% O2, ammonia slip, one-hour average, Rule 1303(a)(1) BACT/LAER
NH3: 0.21 lb/hr, ammonia slip, Rule 1303(b)(2) Offsets

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PERMIT TO CONSTRUCT

A/N 595667
Granted as of: TBD

Equipment Description:

Landfill Gas (LFG) Treatment System consisting of:

1. Untreated LFG inlet manifold, 6,200 scfm capacity.
2. Four Adsorption Vessels, Fixed Bed Type in parallel, each containing a minimum of 53,000 pounds Axtrop 40001 granulated reactant media, or equivalent, for controlling sulfur compounds.
3. Condenser No.1.
4. Gas/liquid Separator No.1.
5. Compressor.
6. Gas/liquid Separator No.2.
7. Two Adsorption Vessels, Temperature Swing Adsorption (TSA) Type, 12' Dia. x 20' H., each containing a minimum of 2,000 cubic feet of Activated Alumina or equivalent adsorption media for controlling siloxanes.
8. [Optional] Two Adsorption Vessels, Temperature Swing Adsorption (TSA) Type, 12' Dia. x 20' H., each containing a minimum of 2,000 cubic feet of Activated Alumina or equivalent adsorption media for controlling siloxanes.
9. Two Adsorption Vessels, Fixed Bed Type, 12' Dia. x 20' H., each containing a minimum of 2,000 cubic feet of Activated Granulated Carbon.
10. Heater, Electrically powered.
11. Inline Filter.
12. Treated LFG Cooler.
13. Treated LFG outlet manifold to Internal Combustion Engines.
14. Adsorption System Regeneration Gas outlet to flare.
15. Condensate Collection, Treatment and Discharge equipment.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. This equipment shall be used only for the treatment of landfill gas.
[Rule 204]
5. A flow indicator shall be installed and maintained at the inlet stream to the LFG treatment system, treatment system outlet, and regeneration off-gas outlet, to indicate these total flow rates in standard cubic feet per Minute (scfm). In case a pressure sensor device is used in place of the flow indicator, a conversion chart shall be available to indicate the correspondent flow rate in SCFM, to the pressure reading.
[Rule 204]

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6. Whenever the LFG treatment system is in operation, the daily flow rate of raw LFG accepted, LFG treated, and regeneration off-gas generated, in standard cubic feet per day (scfd) shall be recorded.
[Rule 204]
7. An adequate number of sampling ports shall be installed and maintained at the inlet and outlet of each adsorption train, regeneration gas outlet line, and the inlet and outlet of the LFG treatment system in accordance with Rule 217 and South Coast AQMD's approval.
[Rule 204, Rule 217]
8. All LFG processing components under positive pressure shall be monitored for leaks on a quarterly basis and prior to scheduled maintenance or during planned outage periods or as otherwise approved in a valid Rule 1150.1 Compliance Plan using an approved Organic Vapor Analyzer (OVA). Dates, times, monitoring results, and corrective actions shall be kept and maintained on file.
[Rule 204, 1150.1]
9. This equipment shall be operated so that there are no leaks that exceed 500 ppm total organic compounds, measured as methane, at any LFG processing component under positive pressure. Any component leak must be tagged and repaired with 10 calendar days from the time of the first exceedance as applicable, or as otherwise approved in a valid Rule 1150.1 Compliance Plan.
[Rule 204, and Rule 1150.1]
10. Samples shall be collected at the inlet and outlet of the LFG treatment system and regeneration off-gas line, at initial start-up and on a monthly basis for the first six months, and then on a quarterly basis thereafter, unless otherwise approved in writing by South Coast AQMD. All gas samples shall be analyzed by a South Coast AQMD Laboratory Approval Program (LAP) approved laboratory or as otherwise approved in writing by South Coast AQMD, for concentrations (ppmv or ppbv) of:
 - A. Total Siloxanes (Organic Silicon Compounds).
 - B. Total Non-Methane Organic Compounds (TNMOC), and
 - C. Total Reduced Sulfur Compounds, as H₂S and speciated sulfur compounds.All sampling and analyses shall conform with EPA, CARB, or South Coast AQMD approved methods. All results shall be recorded.
[Rule 204]
11. The LFG Treatment system shall be operated in accordance with manufacturer's recommended operating specifications and the following operating parameters shall be monitored and recorded at least once each day of operation:
 - A. Process Temperatures and pressures.
 - B. Regeneration Duration.
 - C. Regeneration Frequency.[Rule 204]
12. During an adsorbent regeneration period, the regeneration off-gas from the adsorber train shall be vented at all times to an air pollution control system which is in full operation and has a valid Permit to Construct/Operate issued by the South Coast AQMD.
[Rule 204]
13. Spent media removed from the sulfur control system shall be stored in closed containers prior to disposal.
[Rule 204]

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14. Operation of this equipment shall not result in the release of LFG or regeneration off-gas into the atmosphere. Any breakdown or malfunction which results in emission of LFG or regeneration off-gas shall be reported to South Coast AQMD in accordance with Rule 430 provisions and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions into the atmosphere.
[Rule 402, Rule 430]
15. If a distinct odor resulting from the operation of this equipment is detected at or beyond the facility property line, the operator shall investigate and determine the odor source(s) and undertake mitigation and/or remedial measures to correct the problem. Mitigation measures which are deemed appropriate by South Coast AQMD personnel as necessary to protect the comfort, repose, health, or safety of the public shall be implemented upon request.
[Rule 204, Rule 402]
16. The operator shall maintain records of each instance of media replenishment or change-out. The records shall include the date of each media replenishment or change-out and the type and amount of media replenished or replaced.
[Rule 204]
17. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
 - A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
[Rule 205]
18. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities, quantity and type of adsorbent media) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
[Rule 204]
19. All records required by this permit shall be retained at the facility for a minimum of five years, and shall be made available to any South Coast AQMD representative upon request.
[Rules 204, 3004(a)(4)]

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PERMIT TO CONSTRUCT

A/N 595669
Granted as of: TBD

Equipment Description:

Storage Tank, Aqueous Ammonia, 8 feet Dia. x 36 feet L., maximum 12,000 gallons capacity, with vacuum/pressure relief valve.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. The maximum volume of aqueous ammonia dispensed from this storage tank shall not exceed 12,000 gallons in any one calendar month.
[Rule 204, 1303(b)(2) Offsets]
5. Records of monthly aqueous ammonia delivered and dispensed shall be prepared and retained on site for at least five years and shall be made available to South Coast AQMD representatives upon request.
[Rule 204, 3004(a)(4)]
6. Only aqueous ammonia, with a maximum ammonia concentration which does not exceed 19% by weight, shall be stored in this equipment.
[Rule 204]
7. Safety data sheets for the aqueous ammonia used in this equipment shall be kept current and shall be made available to South Coast AQMD representatives upon request
[Rule 204]
8. The pressure relief valve shall be set at a minimum of 25 psi.
[Rule 204]
9. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
 - A. The permit number and application number for which an extension is requested.

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- B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
[Rule 205]
10. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
[Rule 204]
11. All records required to demonstrate compliance with this permit shall be kept and maintained for at least five (5) years and shall be made available to South Coast AQMD personnel upon request.
[Rule 204]

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PERMIT TO CONSTRUCT

A/N 565670
Granted as of: TBD

Equipment Description:

Regeneration Gas Flare, Enclosed, Landfill Gas Fired, 6.85 MMBtu/hr, John Zink or equivalent, Ultra-Low Emission or equivalent, 28' H x 4' Dia., venting a Landfill Gas (LFG) Treatment System Adsorption Vessels.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
[Rule 204]
2. This equipment shall be properly maintained and kept in good operating condition at all times.
[Rule 204]
3. This equipment shall be operated by personnel properly trained in its operation.
[Rule 204]
4. Identification tag(s) or nameplate(s) shall be displayed on the equipment to show manufacturer, model number, and the rated heat input capacity (HHV) of the burner. The tag(s) or plate(s) shall be issued by the manufacturer and shall be affixed to the equipment in a permanent and conspicuous position.
[Rule 204]
5. A flow indicating and recording device shall be installed in the LFG and regeneration landfill gas supply lines to the flare to measure and record the volumetric flow rate of gas (in standard cubic feet per minute) being combusted in the flare. The recording device shall be capable of recording the gas flow rate at least once every 15 minutes.
[Rule 204, 1303(b)(2)-Offset]
6. The total volume of landfill gas burned in the flare shall not exceed 360 standard cubic feet per minute.
[Rule 204, 1303(b)(2)-Offset]
7. This flare shall be equipped with a continuous temperature indicator and recorder which measures and records the gas temperature in the flare stack. The temperature indicator and recorder shall operate whenever the flare is in operation. The temperature shall be measured at a location above the flame zone, at least 0.6 seconds downstream of the burner and not less than four (4) feet from the top of the stack.
[Rule 204, 1303(a)(1)-BACT]
8. Whenever this flare is in operation, a temperature of not less than 1400 degrees Fahrenheit, averaged over 15 minutes, as measure by the temperature indicator and recorder, shall be maintained except during periods of startup and shutdown. Startup is defined as the period from flare ignition to the time when 1400 degrees Fahrenheit is achieved, not to exceed 30 minutes. Shutdown is the period from when the gas valve begins to be shut and completely shuts off, not to exceed 30 minutes.
[Rule 1303(a)(1)-BACT]

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9. This flare shall be equipped with an automatic shut-down and re-start system with a failure alarm, and an automatic combustion air control system which has been approved by South Coast AQMD to automatically isolate the flare from the landfill gas supply line, shut off the blower, and immediately notify a responsible party of the shutdown. The automatic shutdown safety system shall be tested monthly for proper operation of the flare and the results recorded.
[Rule 204, 1303(a)(1)-BACT]
10. Either a pilot flame or LFG combustion flame shall be maintained in the flare whenever LFG or regeneration gas may be venting to the flare.
[Rule 204]
11. The maximum skin temperature at any location of the flare shall not exceed 250 degrees Fahrenheit upon request of South Coast AQMD.
[Rule 204, Rule 217]
12. Weekly reading of the BTU content HHV (BTU/scf) of the gas at the inlet to the flare burner shall be taken using an instrument approved by the South Coast AQMD. All results shall be recorded.
[Rule 204, 1303(b)(1) Modeling, 1303(b)(2) Offsets]
13. The heat input through the flare shall not exceed 6.85 million Btu per hour (HHV). A log shall be kept indicating the total heating value of the digester gas burned in the flare based on the recorded flow rate and weekly Btu content reading.
[Rule 204, 1303(b)(1) Modeling, 1303(b)(2) Offsets]
14. This equipment shall achieve a methane destruction efficiency of at least 99 percent by weight.
[Rule 1150.1]
15. An adequate number of sampling ports shall be maintained in the exhaust stack at least one-half duct diameter upstream of the exhaust outlet, and at least two duct diameters downstream from the nearest flow disturbances (e.g. elbows, tees and fans). Each sampling port shall consist of a four-inch coupling with plug. All ports shall be properly centered. An equivalent method of emission sampling may be used upon written approval of the South Coast AQMD. Adequate and safe access to all source test ports shall be provided within 48 hours' notice by the South Coast.
[Rule 204, 217]
16. A sampling port shall be maintained at the inlet gas line to the flare to allow the collection of a landfill gas sample.
[Rule 204, 217, 431.1]
17. The flare shall be designed and constructed such that the flame in the flare remains below the height of the flare's operating thermocouple at all times.
[Rule 204]
18. The exhaust stack shall have a height at least 28' above grade.
[Rule 204]

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19. Operation of this equipment shall not result in the release of LFG or regeneration off-gas into the atmosphere. Any breakdown or malfunction which results in emissions of LFG shall be reported to the South Coast AQMD in accordance with Rule 430 provisions and immediate remedial measures shall be under taken to correct the problem and prevent further emissions into the atmosphere.
[Rule 204, 402, 430, 1150.1]
20. A source test protocol shall be submitted to South Coast AQMD no later than 60 days before the proposed test date and shall be approved in writing by South Coast AQMD before the test commences or a valid previously South Coast AQMD approved protocol may be used for recurring source test. At a minimum, the source test protocol should include the following, unless otherwise approved in writing by South Coast AQMD:
- A. The name, address, and phone number of the unit operator and the South Coast AQMD-approved source testing contractor that will conduct the test(s).
 - B. The application and permit number(s).
 - C. A copy of the current valid approved permit(s).
 - D. The current emission limits.
 - E. A description of the equipment to be tested. Include a process schematic indicating sampling locations/ports, and sampling duct/stack dimensions along with upstream and downstream flow disturbances (e.g. elbows, tees, and fans).
 - F. A brief process description.
 - G. Operating conditions under which the test will be performed, including flow rate, temperature, pressure, number of tests to be conducted, and operating loads.
 - H. A description of the sampling and analytical methods for each constituent measured.
 - I. Complete calculations for flow rates, concentrations, emission rates, and efficiencies.
 - J. A description of the calibration and quality assurance procedures.
 - K. Copy of LAP approval for methods being used in the source test.
 - L. A statement determining that the testing laboratory qualifies as an “independent testing laboratory” under Rule 304 (no conflict of interest), signed by the responsible authority.
[Rule 204, 217, 304]
21. The operator shall conduct a source test on the flare at the maximum flow rates achievable at that time, within 180 days of initial start-up, unless otherwise approved in writing by the Executive Officer. The operator shall submit written results no later than 60 days of testing. The operator shall conduct a source test on the flare every five years in as-found condition. Written notice of the performance tests shall be provided to the South Coast AQMD at least seven (7) days prior to the testing so that an observer may be present.

Pursuant to Rule 1150.1, the operator shall conduct source testing as follows, or pursuant to a valid and approved Rule 1150.1 Compliance Plan. The operator shall conduct source testing for NMOC as hexane and methane annually. Subsequent annual source tests shall be conducted no later than 45 days after the anniversary date of the initial source test. The initial source test shall be submitted to South Coast AQMD no later than 180 days

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after start-up and each succeeding complete annual source test report no later than 45 days after the anniversary date of the initial source test.

The source tests shall be conducted during a typical regeneration off-gas operation period representative of the regeneration cycle that is expected to result in the largest emissions vented to the flare and shall include, but not be limited to, as test of the LFG and regeneration off-gases vented to the flare and the flare exhaust for:

- A. Methane (percent by volume).
- B. Total non-methane organic compounds (NMOC), (lbs/hr, lb/MMBtu, ppmvd, ppmvd @3% O₂, destruction efficiency by weight)
- C. Oxides of nitrogen (exhaust only) (lb/hr, lb/MMBtu, ppmvd)
- D. Carbon monoxide (exhaust only) (lb/hr, lb/MMBtu, ppmvd)
- E. Total particulates/PM10 (exhaust only) (lb/hr, grains/dscf).
- F. Total reduced sulfur, as H₂S and speciated sulfur compounds of LFG and regen gas (ppmv)
- G. Carbon dioxide (lb/hr, ppmvd, percent by volume).
- H. Speciated organics, including, but not limited to, Rule 1150.1 Table 1 Carcinogenic and Toxic Air Contaminants ppmv)
- I. Total siloxanes (organic silicon compounds) (ppmv).
- J. Aldehydes (initial test only) (ppmv).
- K. Oxygen (percent by volume)
- L. Nitrogen, (percent by volume)
- M. Moisture Content (percent by volume)
- N. Temperature (Fahrenheit)
- O. Flow rate of LFG & regen gas (inlet), scfm
- P. Flow rate (exhaust), scfm
- Q. BTU content (Inlet only), BTU/SCF

[Rule 204, 1150.1, 1303(a)(1)-BACT, 1303(b)(2)-Offset, 3004(a)(4)]

22. This Permit to Construct shall expire if construction of this equipment is not completed within one year from the date of issuance unless an extension is granted by the South Coast AQMD. At least 30 days prior to the expiration date of the Permit to Construct, the operator shall submit a written request for and obtain an extension of time to construct this equipment on an annual basis until such time construction is completed and a written notification has been submitted reporting the date construction was completed and the date operation of the equipment is intended to be operated. Each extension request shall include the following information:
- A. The permit number and application number for which an extension is requested.
 - B. The increments of construction progress that have been completed thus far, with schematics, specification, and/or photos (if available).
 - C. The increments of construction progress that have yet to be completed for construction to be complete.
 - D. Explanation and description of any delays or circumstance necessitating the extension.
 - E. The proposed date of extension being requested for the Permit to Construct.
- [Rule 205]
23. The operator of this equipment shall submit final as-built specifications (make, model, dimensions, size, maximum capacities) and P&I diagrams to South Coast AQMD (attn: Waste Management Permitting), within 60 days of completing construction of this equipment, unless otherwise approved in writing by South Coast AQMD. The submittal shall also identify the equipment location, initial operation date, and application number.
- [Rule 204]
24. All records required by this permit shall be retained at the facility for a minimum of five years, and shall be made available to any South Coast AQMD representative upon request.
- [Rules 204, 1150.1, 3004(a)(4)]

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Emissions and Requirements:

25. This equipment is subject to the applicable requirements of the following Rules and Regulations:

CO: 2000 ppmvd, 15 consecutive minute average, Rule 407
CO: 0.06 lb/MMBtu, Rule 1303(a)(1) BACT/LAER
CO: 0.41 lb/hr, Rule 1303(b)(2) Offsets
NOx: 0.025 lb/MMBtu, Rule 1303(a)(1) BACT/LAER
NOx: 0.17 lb/hr, Rule 1303(b)(2) Offsets
NMOC: 20 ppmvd as hexane @3% O₂ or 98% by weight reduction, Rule 1150.1, 40 CFR 62 Subpart F, 40 CFR 63 Subpart AAAAA
ROG 0.038 lb/MMBtu, Rule 1303(a)(1) BACT/LAER
VOC: 0.30 lb/hr, Rule 1303(b)(2) Offsets
PM Rule 404, See Appendix B for Emission Limits
PM 0.1 grains/dscf, Rule 409
PM/PM10: 6.1 lb/MMscf LFG, Rule 1303(a)(1) BACT/LAER
PM/PM10: 0.13 lb/hr, Rule 1303(b)(2) Offsets
SOx: 0.22 lb/hr (based on LFG combustion only), Rule 1303(b)(2) Offsets