

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

Facility Equipment and Requirements (Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to 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 BREA PARENT 2007, LLC

PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Operate Number	Equipment description	Page
468740	F92618	FLARE, WASTE/LANDFILL GAS	4
468743	F92619	LANDFILL GAS TREATMENT	6
414941	G16274	I C E-A (2650 HP), LANDFILL GAS, WITH OXIDATION CATALYST	10
414942	G16275	I C E-B (2650 HP), LANDFILL GAS, WITH OXIDATION CATALYST	14
414943	G16276	I C E-C (2650 HP), LANDFILL GAS, WITH OXIDATION CATALYST	18
485956	TBD, will supersede G16274	I C E-A (2650 HP), LANDFILL GAS, WITH OXIDATION CATALYST	22
484957	TBD, will supersede G16275	I C E-B (2650 HP), LANDFILL GAS, WITH OXIDATION CATALYST	26
484958	TBD, will supersede G16276	I C E-C (2650 HP), LANDFILL GAS, WITH OXIDATION CATALYST	30

NOTE: EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS 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.

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

PERMIT TO OPERATE

Permit No. TBD
A/N 485956

Equipment Description:

LANDFILL GAS PRE-TREATMENT AND CONTROL SYSTEM CONSISTING OF:

1. SILOXANES REMOVAL SYSTEM, APPLIED FILTER TECHNOLOGY, MODEL SAG 842D, WITH TWO VESSELS IN SERIES, COMMON TO THREE INTERNAL COMBUSTION ENGINES.
2. COMBUSTION PRE-CHAMBER FOR ENGINE, COOPER COMPRESSION MODEL 825
3. INTERNAL COMBUSTION ENGINE "A", COOPER ENERGY SERVICES/SUPERIOR, MODEL NO. 16 SGTA, LANDFILL GAS-FIRED, LEAN-BURN, TURBOCHARGED, INTERCOOLED, 4-STROKE, RECIPROCATING, SPARK IGNITION, V-16 TYPE, 2650 H.P., AND DRIVING AN 1875 K.W. ELECTRICAL GENERATOR.
4. OXIDATION CATALYST, EAS INC., 4-ELEMENT.
5. EXHAUST STACK, 17.75 INCH DIA. x 28 FT. H.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE 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. SILOXANE REMOVAL SYSTEM, CONTAINING ADEQUATE QUANTITY OF MEDIA, SHALL BE OPERATED AS PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
[RULE 204]
4. A FLOW INDICATING AND RECORDING DEVICE SHALL BE MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO EACH ENGINE TO MEASURE AND RECORD THE VOLUMETRIC FLOW RATE OF LANDFILL GAS (IN SCFH) BEING BURNED.
[RULE 1303(b) (2)-OFFSET]
5. THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THIS ENGINE SHALL NOT EXCEED 28.8 MILLION BTU'S PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFH) AND THE LATEST WEEKLY BTU CONTENT READING.
[RULE 1303(b) (2)-OFFSET]

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

6. WEEKLY READINGS OF THE BTU CONTENT OF THE LANDFILL GAS AT THE INLET TO THE ENGINE SHALL BE TAKEN USING LANDTEC GEM 2000 ANALYZER OR EQUIVALENT. ALL RESULTS SHALL BE RECORDED.
[RULE 204]
7. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF DAY.
[RULE 204]
8. A SAMPLING PORT SHALL BE INSTALLED AT THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A LANDFILL GAS SAMPLE.
[RULE 217]
9. TWO SAMPLING PORTS SHALL BE MAINTAINED IN THE INTERNAL COMBUSTION ENGINE EXHAUST DUCT 8-10 DUCT DIAMETERS DOWNSTREAM AND TWO DUCT DIAMETERS UPSTREAM OF ANY FLOW DISTURBANCE AT 90 DEGREES APART AND SHALL CONSIST OF TWO 2-1/2 INCH WELD NIPPLES WITH PLUGS. AN EQUIVALENT METHOD FOR EMISSIONS SAMPLING MAY BE USED UPON APPROVAL OF THE SCAQMD. ADEQUATE AND SAFE ACCESS TO THE TEST PORTS SHALL BE PROVIDED.
[RULE 217]
10. THE OPERATOR SHALL CONDUCT EQUIPMENT PERFORMANCE TESTS, AT LEAST ONCE EVERY TWO YEARS, OR EVERY 8,760 OPERATING HOURS, IN ACCORDANCE WITH SCAQMD APPROVED PROTOCOL AND TEST PROCEDURES, AND FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 60 DAYS OF COMPLETION OF TESTS. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO. A TEST OF THE INLET FUEL GAS TO THE ENGINE AND THE ENGINE EXHAUST FOR:
 - A. METHANE
 - B. TOTAL NON-METHANE ORGANIC COMPOUNDS (TNMOC)
 - C. OXIDES OF NITROGEN (EXHAUST ONLY)
 - D. CARBON MONOXIDE (EXHAUST ONLY – AFTER CATALYST)
 - E. CARBON DIOXIDE
 - F. OXYGEN
 - G. NITROGEN
 - H. MOISTURE CONTENT
 - I. TEMPERATURE
 - J. FLOW RATE
 - K. TOTAL REDUCED SULFUR COMPOUNDS, AS H₂S (INLET)
 - L. TNMOC DESTRUCTION EFFICIENCY, WT%
 - M. BTU CONTENT (INLET ONLY)
 - N. POWER OUTPUT[RULE 1110.2, 1150.1, 1303 (a) (1)-BACT, 1303(b)(2)-OFFSET]

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

11. EMISSIONS THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

POLLUTANTS	EMISSIONS PER ENGINE (LB/DAY)
RHC	27
NOX	84
SOX	12
CO	167
PM	1

[RULE 1110.2, 1150.1, 1303 (a) (1)-BACT, 1303 (b) (2) -OFFSET]

12. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE EMISSION OF RAW LANDFILL GAS TO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF RAW LANDFILL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF TOXICS AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR OF OCCURRENCE AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDER TAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 1150.1]
13. THIS EQUIPMENT SHALL NOT BE OPERATED IN SUCH A MANNER AS TO INTERFERE UNREASONABLY WITH THE ABILITY OF THE LANDFILL OWNER/OPERATOR AND, BREA PARENT, LLC, TO COMPLY WITH DISTRICT RULE 1150.1 OR ANY OTHER DISTRICT RULE LIMITING LANDFILL GAS MIGRATION OR SURFACE EMISSIONS.
[RULE 1150.1]
14. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 1110.2.
[RULE 1110.2]
15. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) SHALL BE INSTALLED AND OPERATED TO MEASURE THE ENGINE EXHAUST STACK 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, STACK O₂ CONCENTRATION AND CORRECTED NOX CONCENTRATION AT 15% O₂. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218.
[RULE 218, 1110.2]
16. THIS EQUIPMENT SHALL NOT BURN NATURAL GAS OR OTHER AUXILIARY FUEL.
[RULE 1110.2, 1303 (a) (1)-BACT]
17. A GAUGE SHALL BE INSTALLED AND MAINTAINED TO INDICATE, IN INCHES OF WATER COLUMN, THE PRESSURE DIFFERENTIAL ACROSS THE CATALYST. WHEN IN OPERATION, THE PRESSURE DIFFERENTIAL ACROSS THE CATALYST SHALL NOT EXCEED 1.8 INCHES OF WATER COLUMN OR AS PER CATALYST SUPPLIER'S SPECIFICATION, WHICHEVER IS GREATER.
[RULE 204, 1303(a) (1)-BACT]

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

18. THE CATALYST SHALL BE CHEMICALLY WASHED PER MANUFACTURER'S SPECIFICATIONS. RECORDS OF CHEMICAL WASHINGS AND/OR CATALYST REPLACEMENT SHALL BE MAINTAINED AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204, RULE 1303(a) (1)-BACT]
19. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.
[RULE 3004(a) (4)]

Emissions and Requirements:

20. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
 - METHANE: LEAN BURN COMBUSTION ENGINE, OUTLET METHANE CONCENTRATION TO LESS THAN 3,000 PPMV, DRY BASIS, CORRECTED TO 15% OXYGEN, RULE 1150.1.
 - NMOC: 98 % (BY WT) TNMOC DESTRUCTION EFFICIENCY OR IN EXHAUST 20 PPMV, DRY BASIS, AS HEXANE, AT 3% O₂, RULE 1150.1
 - NMOC: 20 PPMV, 40CFR60 SUBPART WWW
 - CO: 2000 PPMV, CORRECTED TO 15% O₂, DRY BASIS, AVERAGED OVER 15 MINUTES, RULE 1110.2.
 - NOX: 50.8 PPMV (ECF = 1.41), CORRECTED TO 15% O₂, DRY BASIS, AVERAGED OVER 15 MINUTES, RULE 1110.2.
 - ROG: 40 PPMV, AS CARBON, CORRECTED TO 15% O₂, DRY BASIS, RULE 1110.2.
 - PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
 - HAP: 40 CFR PART 63 SUBPART ZZZZ

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

PERMIT TO OPERATE

Permit No. TBD
A/N 485957

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LANDFILL GAS PRE-TREATMENT AND CONTROL SYSTEM CONSISTING OF:

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2. COMBUSTION PRE-CHAMBER FOR ENGINE, COOPER COMPRESSION MODEL 825
3. INTERNAL COMBUSTION ENGINE "B", COOPER ENERGY SERVICES/SUPERIOR, MODEL NO. 16 SGTA, LANDFILL GAS-FIRED, LEAN-BURN, TURBOCHARGED, INTERCOOLED, 4-STROKE, RECIPROCATING, SPARK IGNITION, V-16 TYPE, 2650 H.P., AND DRIVING AN 1875 K.W. ELECTRICAL GENERATOR.
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Conditions:

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[RULE 1303(b) (2)-OFFSET]
5. THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THIS ENGINE SHALL NOT EXCEED 28.8 MILLION BTU'S PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFH) AND THE LATEST WEEKLY BTU CONTENT READING.
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- [RULE 1110.2, 1150.1, 1303 (a) (1)-BACT, 1303(b)(2)-OFFSET]

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

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Emissions and Requirements:

20. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
- | | |
|----------|---|
| METHANE: | LEAN BURN COMBUSTION ENGINE, OUTLET METHANE CONCENTRATION TO LESS THAN 3,000 PPMV, DRY BASIS, CORRECTED TO 15% OXYGEN, RULE 1150.1. |
| NMOC: | 98 % (BY WT) TNMOC DESTRUCTION EFFICIENCY OR IN EXHAUST 20 PPMV, DRY BASIS, AS HEXANE, AT 3% O ₂ , RULE 1150.1 |
| NMOC: | 20 PPMV, 40CFR60 SUBPART WWW |
| CO: | 2000 PPMV, CORRECTED TO 15% O ₂ , DRY BASIS, AVERAGED OVER 15 MINUTES, RULE 1110.2. |
| NOX: | 53.6 PPMV (ECF = 1.49), CORRECTED TO 15% O ₂ , DRY BASIS, AVERAGED OVER 15 MINUTES, RULE 1110.2. |
| ROG: | 40 PPMV, AS CARBON, CORRECTED TO 15% O ₂ , DRY BASIS, RULE 1110.2. |
| PM: | RULE 404, SEE APPENDIX B FOR EMISSION LIMITS |
| HAP: | 40 CFR PART 63 SUBPART ZZZZ |

FACILITY PERMIT TO OPERATE BREA PARENT 2007, LLC

PERMIT TO OPERATE

Permit No. TBD
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15. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) SHALL BE INSTALLED AND OPERATED TO MEASURE THE ENGINE EXHAUST STACK 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, STACK O₂ CONCENTRATION AND CORRECTED NOX CONCENTRATION AT 15% O₂. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218.
[RULE 218, 1110.2]
16. THIS EQUIPMENT SHALL NOT BURN NATURAL GAS OR OTHER AUXILIARY FUEL.
[RULE 1110.2, 1303 (a) (1)-BACT]
17. A GAUGE SHALL BE INSTALLED AND MAINTAINED TO INDICATE, IN INCHES OF WATER COLUMN, THE PRESSURE DIFFERENTIAL ACROSS THE CATALYST. WHEN IN OPERATION, THE PRESSURE DIFFERENTIAL ACROSS THE CATALYST SHALL NOT EXCEED 1.8 INCHES OF WATER COLUMN OR AS PER CATALYST SUPPLIER'S SPECIFICATION, WHICHEVER IS GREATER.
[RULE 204, 1303(a) (1)-BACT]

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18. THE CATALYST SHALL BE CHEMICALLY WASHED PER MANUFACTURER'S SPECIFICATIONS. RECORDS OF CHEMICAL WASHINGS AND/OR CATALYST REPLACEMENT SHALL BE MAINTAINED AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204, RULE 1303(a) (1)-BACT]
19. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.
[RULE 3004(a) (4)]

Emissions and Requirements:

20. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

METHANE:	LEAN BURN COMBUSTION ENGINE, OUTLET METHANE CONCENTRATION TO LESS THAN 3,000 PPMV, DRY BASIS, CORRECTED TO 15% OXYGEN, RULE 1150.1.
NMOC:	98 % (BY WT) TNMOC DESTRUCTION EFFICIENCY OR IN EXHAUST 20 PPMV, DRY BASIS, AS HEXANE, AT 3% O ₂ , RULE 1150.1
NMOC:	20 PPMV, 40CFR60 SUBPART WWW
CO:	2000 PPMV, CORRECTED TO 15% O ₂ , DRY BASIS, AVERAGED OVER 15 MINUTES, RULE 1110.2.
NOX:	49.7 PPMV (ECF = 1.38), CORRECTED TO 15% O ₂ , DRY BASIS, AVERAGED OVER 15 MINUTES, RULE 1110.2.
ROG:	40 PPMV, AS CARBON, CORRECTED TO 15% O ₂ , DRY BASIS, RULE 1110.2.
PM:	RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
HAP:	40 CFR PART 63 SUBPART ZZZZ