

FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

Facility Equipment and Requirements (Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, copies of 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.

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PERMITTED EQUIPMENT LIST

The following is a list of all permits to construct and operate at this facility:

Application Number	Permit Number	Equipment Description	Page Number
06045A	R-M29144	ICE (>500 HP) EM ELECT GEN DIESEL	5
06046A	R-M29146	ICE (>500 HP) EM ELECT GEN DIESEL	7
06047A	R-M29147	ICE (>500 HP) EM ELECT GEN DIESEL	9
06048A	R-M29148	ICE (>500 HP) EM ELECT GEN DIESEL	11
222809	D93957	SEWAGE TRTMNT (>5 MGD) ANEROBIC	13
291030	R-D94235	BOILER (5-20 MMBTU/HR) COMB-DISTILL	16
291031	R-D94232	BOILER (5-20 MMBTU/HR) COMB-DISTILL	18
331911	F11229	SCRUBBER, ODOR	20
414653	R-F96019	ICE (>500 HP) NAT & DIGESTER GAS	22
414654	R-F96020	ICE (>500 HP) NAT & DIGESTER GAS	25
414655	R-F96021	ICE (>500 HP) NAT & DIGESTER GAS	28
414656	R-F96022	ICE (>500 HP) NAT & DIGESTER GAS	31
414657	R-F96023	ICE (>500 HP) NAT & DIGESTER GAS	34
424369	F65823	ICE (>500 HP) EM ELECT GEN DIESEL	37
429663	F71055	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	39
444111	F99405	SCRUBBER, ODOR	43
444112	F99406	SCRUBBER, ODOR	45
444113	F99408	SCRUBBER, ODOR	47
455670	R-F81554	ICE (50-500 HP) EM ELEC GEN DIESEL	49
455671	R-F81555	ICE (50-500 HP) EM ELEC GEN DIESEL	51
455673	R-F81556	ICE (50-500 HP) EM ELEC GEN DIESEL	53
474766	F95584	ICE (>500 HP) EM ELECT GEN DIESEL	55
474767	F95585	ICE (>500 HP) EM ELECT GEN DIESEL	57
474768	F95586	ICE (>500 HP) EM ELECT GEN DIESEL	59
474769	F95587	ICE (>500 HP) EM ELECT GEN DIESEL	61
474770	F95588	ICE (>500 HP) EM ELECT GEN DIESEL	63

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PERMITTED EQUIPMENT LIST (CONT'D)

The following is a list of all permits to construct and permits to operate at this facility:

Application Number	Permit Number	Equipment Description	Page Number
480908	TBD-will supersede R-F96019	ICE (>500 HP) NAT & DIGESTER GAS	65
480909	TBD-will supersede R-F96020	ICE (>500 HP) NAT & DIGESTER GAS	68
480911	TBD-will supersede R-F96021	ICE (>500 HP) NAT & DIGESTER GAS	71
480912	TBD-will supersede R-F96022	ICE (>500 HP) NAT & DIGESTER GAS	74
480916	TBD-will supersede R-F96023	ICE (>500 HP) NAT & DIGESTER GAS	77

NOTE: 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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PERMIT TO OPERATE

Permit No. TBD
A/N 480908

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 1 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG1-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

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 HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	93 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO_x AND O₂ CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO_x TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO_x CONCENTRATION AT 15% O₂ AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O₂, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
- D. OXIDES OF NITROGEN (EXHAUST ONLY).

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- E. OXYGEN
 - F. FLOW RATE
 - G. MOISTURE
 - H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
 - I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
 - J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
 - K. NITROGEN AND CARBON DIOXIDE
 - L. BTU CONTENTS (FUEL ONLY)
 - M. POWER OUTPUT
- [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

- 15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
- CO: 2000 PPMV, RULE 1110.2
 - NO_x: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
 - ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
 - PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.

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PERMIT TO OPERATE

Permit No. TBD
A/N 480909

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 2 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG2-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

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 HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	93 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO_x AND O₂ CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO_x TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO_x CONCENTRATION AT 15% O₂ AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O₂, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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- D. OXIDES OF NITROGEN (EXHAUST ONLY).
- E. OXYGEN
- F. FLOW RATE
- G. MOISTURE
- H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
- K. NITROGEN AND CARBON DIOXIDE
- L. BTU CONTENTS (FUEL ONLY)
- M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

- 15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NO_x: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. TBD
A/N 480911

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 3 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG3-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

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 HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	93 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO_x AND O₂ CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO_x TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO_x CONCENTRATION AT 15% O₂ AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O₂, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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- D. OXIDES OF NITROGEN (EXHAUST ONLY).
- E. OXYGEN
- F. FLOW RATE
- G. MOISTURE
- H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
- K. NITROGEN AND CARBON DIOXIDE
- L. BTU CONTENTS (FUEL ONLY)
- M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

- 15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
- CO: 2000 PPMV, RULE 1110.2
 - NO_x: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
 - ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
 - PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. TBD
A/N 480912

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 4 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG4-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

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 HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O ₂
PARTICULATES (PM ₁₀)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	93 PPMV AT 15% O ₂

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO ₂)	828
PARTICULATES (PM ₁₀)	72
ROG OR TNMHC (AS CH ₄)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO_x AND O₂ CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO_x TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO_x CONCENTRATION AT 15% O₂ AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O₂, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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- D. OXIDES OF NITROGEN (EXHAUST ONLY).
- E. OXYGEN
- F. FLOW RATE
- G. MOISTURE
- H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
- K. NITROGEN AND CARBON DIOXIDE
- L. BTU CONTENTS (FUEL ONLY)
- M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

- 15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NO_x: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

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PERMIT TO OPERATE

Permit No. TBD
A/N 480916

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 5 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG5-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

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 HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	93 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO_x AND O₂ CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO_x TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO_x CONCENTRATION AT 15% O₂ AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O₂, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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- D. OXIDES OF NITROGEN (EXHAUST ONLY).
- E. OXYGEN
- F. FLOW RATE
- G. MOISTURE
- H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
- J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
- K. NITROGEN AND CARBON DIOXIDE
- L. BTU CONTENTS (FUEL ONLY)
- M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

- 15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NO_x: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26)
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

