

FACILITY PERMIT TO OPERATE EASTERN MUNICIPAL WATER DISTRICT

PERMIT TO CONSTRUCT/OPERATE

Permit No. TBD
A/N 542796

Equipment Description:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, MODEL NO. G3512, SPARK IGNITION, FOUR CYCLE, 12 CYLINDERS, 815 BHP, RICH-BURN, TURBOCHARGED, AFTERCOOLED, NATURAL GAS FIRED, WITH A MIRATECH NON-SELECTIVE CATALYTIC CONVERTER, MODEL SP-IQ2S-26X3-10-EC2, AND AN ALTRONIC AIR/FUEL RATIO CONTROLLER, MODEL EPC-100E, DRIVING A WATER PUMP.

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 ENGINE SHALL NOT BE OPERATED UNLESS ITS EXHAUST IS VENTED TO AN AIR POLLUTION CONTROL DEVICE, WHICH IS IN FULL OPERATION AND WHICH IS IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
4. THIS ENGINE SHALL ONLY BE FIRED ON NATURAL GAS.
[RULE 204, RULE 1110.2]
5. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF RULE 1110.2, RULE 431.1, 40 CFR 60 SUBPART JJJJ, AND 40 CFR 63 SUBPART ZZZZ.
[RULE 1110.2, RULE 431.1, 40CFR60 SUBPART JJJJ, 40CFR63 SUBPART ZZZZ]
6. THE IGNITION TIMING OF THIS ENGINE SHALL BE INSPECTED, ADJUSTED AND CERTIFIED AT A MINIMUM ONCE EVERY THREE YEARS OF OPERATION. INSPECTIONS, ADJUSTMENTS AND CERTIFICATIONS SHALL BE PERFORMED BY A QUALIFIED MECHANIC AND ACCORDING TO THE ENGINE MANUFACTURER'S PROCEDURES.
[RULE 204]
7. THE CATALYST IN THE CONVERTER SHALL BE MAINTAINED IN GOOD WORKING CONDITION. THE OPERATOR SHALL MAINTAIN RECORDS OF CATALYST CLEANING PERIODS AND REPLACEMENT FREQUENCY.
[RULE 1303]

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8. A DIFFERENTIAL PRESSURE MEASURING DEVICE SHALL BE INSTALLED TO MEASURE THE PRESSURE DROP ACROSS THE CATALYST. IF THE PRESSURE DROP EXCEEDS 2 INCHES OF WATER COLUMN (W.C.), AS COMPARED TO THE PRESSURE MEASURED AFTER THE MOST RECENT CLEANING, THE CATALYST SHALL BE CLEANED ACCORDING TO THE PROCEDURE RECOMMENDED BY THE MANUFACTURER. THE TOTAL PRESSURE DROP SHALL NOT EXCEED 10 INCHES W.C.
[RULE 204, RULE 1110.2, RULE 1303]
9. A HIGH TEMPERATURE SHUT-DOWN MECHANISM SHALL BE INSTALLED AT THE OUTLET PORT OF THE CONVERTER AND SET TO 1350 DEGREES FAHRENHEIT OR LESS.
[RULE 1303]
10. WHENEVER THE ENGINE IS OPERATING, THE TEMPERATURE AT THE INLET OF THE CATALYTIC OXIDIZER SHALL BE MAINTAINED BETWEEN 600 DEGREES FAHRENHEIT AND 1250 DEGREES FAHRENHEIT, EXCEPT DURING START-UP OR SHUT-DOWN OPERATION WHICH DOES NOT EXCEED 30 MINUTES PER EVENT.
[RULE 1303]
11. THE OPERATOR SHALL MAINTAIN AND IMPLEMENT AN INSPECTION AND MONITORING (I&M) PLAN, BASED ON EQUIPMENT AS DESCRIBED IN THIS PERMIT IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF RULE 1110.2(f)(1)(D).
[RULE 1110.2]
12. A NON-RESETTABLE OPERATIONAL TOTALIZING FUEL METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE FUEL USAGE, IN CUBIC FEET, IN THE FUEL SUPPLY LINE TO THE ENGINE.
[RULE 1110.2]
13. A NON-RESETTABLE OPERATIONAL TOTALIZING TIME METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE, IN CUMULATIVE HOURS, THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]
14. AN ENGINE OPERATING LOG SHALL BE MAINTAINED WHICH ON A MONTHLY BASIS SHALL LIST ALL ENGINE OPERATIONS IN EACH OF THE FOLLOWING AREAS:
 - A. TOTAL HOURS OF OPERATION.
 - B. FUEL CONSUMPTION OF EACH FUEL TYPE.
 - C. CUMULATIVE HOURS OF OPERATION SINCE THE LAST SOURCE TEST.[RULE 204, RULE 1110.2]
15. THE ENGINE SHALL OPERATE BETWEEN 1044 AND 1276 RPM, EXCEPT DURING START-UP OR SHUT-DOWN OPERATION WHICH DOES NOT EXCEED 30 MINUTES, PER EVENT.
[RULE 1110.2]

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16. TESTING SHALL BE CONDUCTED AT THE OUTLET OF THE ENGINE AT LEAST ONCE EVERY TWO YEARS, OR EVERY 8,760 OPERATING HOURS, WHICHEVER OCCURS FIRST. 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 WITHIN THREE MONTHS OF THE DATE A SOURCE TEST IS REQUIRED, THE SOURCE TEST SHALL BE CONDUCTED WHEN THE ENGINE RESUMES OPERATION FOR A PERIOD LONGER THAN EITHER SEVEN CONSECUTIVE DAYS OR 15 CUMULATIVE DAYS OF OPERATION. THE RESULTS OF THESE TESTS SHALL BE FURNISHED TO THE SCAQMD IN WRITING WITHIN 60 DAYS AFTER THE TESTS ARE CONDUCTED. WRITTEN NOTICE OF THE PERFORMANCE TESTS SCHEDULE SHALL BE PROVIDED TO THE SCAQMD 7 DAYS PRIOR TO THE TESTS SO THAT AN OBSERVER MAY BE PRESENT. THE TESTING SHALL INCLUDE, BUT NOT BE LIMITED TO:
- A. TOTAL NON-METHANE ORGANICS
 - B. OXIDES OF NITROGEN
 - C. CARBON MONOXIDE
 - D. CARBON DIOXIDE
 - E. OXYGEN
 - F. NITROGEN
 - G. MOISTURE CONTENT
 - H. TEMPERATURE
 - I. FLOW RATE

THE FINAL REPORT SHALL INCLUDE FUEL CONSUMPTION AND THE ENGINE LOAD DURING THE TESTS.

[RULE 1110.2, RULE 1303]

17. 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 EMISSION LIMITS.
- [RULE 1110.2]

Periodic Monitoring:

18. THIS ENGINE SHALL NOT BE OPERATED WITHOUT THE USE OF AN AUTOMATIC AIR TO FUEL RATIO CONTROLLER WHICH SHALL BE MAINTAINED AND KEPT IN PROPER OPERATING CONDITIONS AT ALL TIMES AS SPECIFIED BY THE MANUFACTURER.
- [RULE 1110.2, RULE 1303, RULE 3004(a)(4)]
19. A TEMPERATURE MEASUREMENT AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED AT THE INLET AND OUTLET OF THE CATALYST.
- [RULE 1303, RULE 3004(a)(4)]
20. THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE OXYGEN CONCENTRATION BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 0.5%. TO COMPLY WITH THIS CONDITION, THE OPERATOR SHALL INSTALL AND MAINTAIN A SENSOR TO ACCURATELY INDICATE THE OXYGEN CONCENTRATION OF THE EXHAUST GAS ENTERING THE CATALYST. THE OPERATOR SHALL ALSO INSTALL AND MAINTAIN A DEVICE TO CONTINUOUSLY RECORD THE PARAMETER BEING MEASURED. PARAMETRIC OPERATING DATA MAY BE USED IN LIEU OF DIRECT OXYGEN MEASUREMENTS.
- [RULE 1303, RULE 3004(a)(4)]

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21. OPERATING RECORDS FOR THE EQUIPMENT, WHICH SHALL INCLUDE ALL DATA, LOGS, TEST REPORTS, DATES OF OPERATION, TOTAL HOURS OF OPERATION, AND FUEL CONSUMPTION FOR EACH TYPE OF FUEL SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.
[RULE 1110.2, RULE 3004(a)(4)]

Emissions and Requirements:

22. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
- PM10 RULE 404, SEE APPENDIX B FOR EMISSIONS LIMITS
 - NOX: 11 PPMV, RULE 1110.2@ 15% O2 DRY
 - NOX: 9 PPMV, RULE 1303@ 15% O2 DRY, ONE HOUR AVERAGE
 - VOC: 30 PPMV, RULE 1110.2@ 15% O2 DRY
 - VOC: 26 PPMV, RULE 1303@ 15% O2 DRY, ONE HOUR AVERAGE
 - CO: 250 PPMV, RULE 1110.2@ 15% O2 DRY
 - CO: 60 PPMV, RULE 1303@ 15% O2 DRY, ONE HOUR AVERAGE