

**FACILITY PERMIT TO OPERATE  
ORANGE COUNTY SANITATION DISTRICT**

**PERMIT TO CONSTRUCT**

A/N 494460  
Granted as of 02/09/2010

**Equipment Description:**

BOILER, HURST BOILER AND WELDING COMPANY, MODEL S5-250-125W OR EQUIVALENT, FIRE-TUBE TYPE, WITH POWER FLAME INC., MODEL NVC8-G-30 LOW NO<sub>x</sub> BURNER OR EQUIVALENT, 10,500,000 BTU PER HOUR, WITH DIGESTER GAS AS PRIMARY FUEL, AND NATURAL GAS AS STAND-BY FUEL.

**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. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL BOILER DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE PRIMARILY FIRED WITH DIGESTER GAS. NATURAL GAS MAY BE USED AS A STANDBY FUEL, IN THE EVENT DIGESTER GAS IS NOT AVAILABLE.  
[RULE 204, 1146]
5. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.  
[RULE 1303 (b) (1) & 1303 (b) (2) - MODELING & OFFSET]
6. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10.5 MMBTU/HR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL GAS BURNED IN THIS EQUIPMENT BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) & 1303 (b) (2) - MODELING & OFFSET]

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7. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.  
[RULE 1146]

8. EMISSIONS FOR OXIDES OF NITROGEN (NO<sub>x</sub>) AND CARBON MONOXIDE (CO) SHALL NOT EXCEED THE FOLLOWING LIMITS AND SHALL BE MEASURED BY VOLUME, ON A DRY BASIS, AT 3% O<sub>2</sub>.

| <u>FUEL USED</u> | <u>NO<sub>x</sub> AS NO<sub>2</sub></u> | <u>CO</u> |
|------------------|---|-----------|
| DIGESTER GAS     | 30 PPMV                                 | ≤100 PPMV |
| NATURAL GAS      | 12 PPMV                                 | ≤50 PPMV  |

[RULE 1146, RULE 1303 (a) (1) - BACT/LAER]

9. ON AND AFTER JANUARY 1, 2015, EMISSIONS OF NO<sub>x</sub> SHALL NOT EXCEED 15 PPMV (CORRECTED TO 3% O<sub>2</sub>, DRY) WHILE FIRING ON DIGESTER GAS  
[RULE 1146]

10. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL SOURCE TEST, AND SUBSEQUENT SOURCE TESTS ONCE EVERY THREE YEARS THEREAFTER, UNDER THE FOLLOWING CONDITIONS:
- A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.
  - B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.
  - C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.
  - D. THE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.
  - E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED TO AQMD, ATTN. GAURANG RAWAL, WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

FUEL FLOW RATE (EACH FUEL)  
FLUE GAS FLOW RATE (EACH FUEL)  
METHANE (INLET DIGESTER GAS)

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TOTAL NON-METHANE ORGANICS (EXHAUST & INLET DIGESTER GAS)  
SPECIATED TRACE ORGANICS (EXHAUST, DIGESTER GAS)  
TOTAL PARTICULATES (EXHAUST)  
OXIDES OF NITROGEN (EXHAUST)  
CARBON MONOXIDE (EXHAUST)  
OXYGEN  
DIGESTER GAS BTU (HHV), AND TOTAL SULFUR CONTENT (AS H<sub>2</sub>S, PPMV)

THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.  
[RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

10. MONITORING AND TESTING OF THE BOILER SHALL BE PERFORMED ACCORDING TO RULE 1146. [RULE 1146]
11. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

| <u>POLLUTANT</u> | <u>POUNDS PER HOUR</u>       |
|------------------|------------------------------|
| CO               | 0.90 (0.43 WITH NATURAL GAS) |
| NO <sub>x</sub>  | 0.44 (0.17 WITH NATURAL GAS) |
| PM <sub>10</sub> | 0.056                        |
| ROG              | 0.083                        |
| SO <sub>x</sub>  | 0.13                         |

[RULE 404, 431.1, 1303(a) (1)-BACT, 1303(b) (2) - OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART DDDDD. [40 CFR 63 SUBPART DDDDD]
13. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR A MINIMUM OF FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST. [RULE 3004 (a) (1)]

**Periodic Monitoring:**

14. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMIT(S) IN CONDITION NO. 11, AT LEAST ONCE EVERY FIVE YEARS USING AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 1303 - OFFSET, 3004 (a) (4)]

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**Emissions And Requirements:**

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

CO: 2000 PPMV, RULE 407  
CO: 400 PPMV, @ 3% O<sub>2</sub>, DRY BASIS, RULE 1146  
PM: 0.1 GR/SCF, RULE 409