



# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 ELLIS STREET  
SAN FRANCISCO, CALIFORNIA 94109  
(415) 771-6000

A0653

# PERMIT TO OPERATE

Plant# 653

Page: 1

Expires: FEB 1, 2010

This document does not permit the holder to violate any District regulation or other law.

Nathan Brennan  
Central Marin Sanitation Agency  
1301 Andersen Drive  
San Rafael, CA 94901

RECEIVED  
FEB 02 2009

CENTRAL MARIN  
SANITATION AGENCY

Location: Andersen Drive, East end  
San Rafael, CA 94901

S#	DESCRIPTION	[Schedule]	PAID
1	Reciprocating engine, 1050 hp, Waukesha, 2924 cu in Cogeneration Engine #2, 1050 bhp, 750 Kwe Emissions at: P1 Stack	[B]	174
3	Commercial/Instutional Boiler, 3180K BTU/hr max, Multifuel Boiler Fired with Sludge Gas or Natural Gas Emissions at: P3 Stack	[B]	152
4	Commercial/Instutional Boiler, 3180K BTU/hr max, Multifuel Boiler Fired with Sludge Gas or Natural Gas Emissions at: P4 Stack	[B]	152
5	Industrial Flare - Other (not refinery), 5760K BTU/hr max Waste Sludge Gas Burner (Standby Only) Emissions at: P5 Stack	[G1]	900
6	Industrial Flare - Other (not refinery), 5760K BTU/hr max Waste Sludge Gas Burner (Standby Only) Emissions at: P6 Stack	[G1]	900
11	Service Station G7576, 2 gasoline nozzles, Vehicle Non Retail Gasoline Dispensing Facility	[exempt]	0
15	Standby Diesel engine, 1200 hp, Cummins S/N 31127795 Emergency Standby Genset, Diesel 1135 HP Emissions at: P11 Stack	[B]	185

The operating parameters described above are based on information supplied by permit holder and may differ from the limits set forth in the attached conditions of the Permit to Operate. The limits of operation in the permit conditions are not to be exceeded. Exceeding these limits is considered a violation of District regulations subject to enforcement action.


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S#	DESCRIPTION	[Schedule]	PAID
16	Standby Diesel engine, 77 hp, Deutz, 345 cu in Emergency Standby Genset, Diesel, 77 HP	[B]	167
100	CHEM> Sewage, Wastewater treatment plant, Municipal sewage Municipal Wastewater Treatment Plant	[F]	239
110	CHEM> Sewage, Preliminary treatment, Municipal sewage Preliminary Treatment Abated by: A2 Packed Bed Scrubber A4 Packed Bed Scrubber A5 Packed Bed Scrubber Emissions at: P7 Stack P9 Stack P10 Stack	[G1]	900
120	CHEM> Sewage, Primary treatment, Municipal sewage Primary Treatment	[G1]	900
130	CHEM> Sewage, Secondary treatment, Municipal sewage Secondary Treatment Abated by: A3 Packed Bed Scrubber A4 Packed Bed Scrubber Emissions at: P8 Stack P9 Stack	[F]	217
140	CHEM> Sewage, Secondary clarifiers, Municipal sewage Secondary Clarifiers	[F]	217
150	CHEM> Sewage, Disinfection, Municipal sewage Disinfection	[F]	217
160	CHEM> Sewage, Sludge handling processes, Municipal sewage Sludge Handling Abated by: A5 Packed Bed Scrubber Emissions at: P10 Stack	[G1]	900
170	CHEM> Sewage, Digesters, Municipal sewage Anaerobic Digestors	[G1]	900

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S#	DESCRIPTION	[Schedule]	PAID
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15 Permit Sources, 1 Exempt Source

\*\*\* See attached Permit Conditions \*\*\*

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\*\*\* PERMIT CONDITIONS \*\*\*

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Source# 1 subject to Condition ID# 20461  
Source# 11 subject to Condition ID# 14098 and 20666  
Source# 15 subject to Condition ID# 22820


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**COND# 14098 applies to S# 11**

Pursuant to BAAQMD Toxic Section Policy, this facility's annual gasoline throughput shall not exceed 940,000 gallons in any consecutive 12 month period.

**COND# 20461 applies to S# 1**

S-1 Cogeneration Engine #2, Natural Gas or Digester Gas Fired, 1050 bhp, 750 Kwe, Waukesha VGF48GLD

1. This engine shall be fired on digester gas or natural gas only. (Basis: Cumulative Increase)
2. Thermal Capacity Limitation: Total thermal input shall not exceed 84,184 MM Btu in any 12 month period. (Basis: Cumulative Increase)
3. NOx emissions, calculated as NO2, shall not exceed the following levels.  
(Basis: BACT, Cumulative Increase)
  - a. Natural Gas Combustion: 1.0 g/hp-hr.
  - b. Digester Gas Combustion: 1.25 g/hp-hr.
4. CO emissions shall not exceed the following levels.  
(Basis: BACT, Cumulative Increase)
  - a. Natural Gas Combustion: 2.75 g/hp-hr.
  - b. Digester Gas Combustion: 2.65 g/hp-hr.
5. NMHC emissions, calculated as methane, shall not exceed 1.0 g/hp-hr.  
(Basis: BACT, Cumulative Increase)
6. SO2 emissions shall not exceed 0.3 g/hp-hr.  
(Basis: BACT)
7. District approved flowmeters shall be installed on this engine to measure the respective digester gas and natural gas flow. These flowmeters shall be


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- installed prior to any operation and maintained in good working order. (Basis: Cumulative Increase)
8. To demonstrate compliance with the limits specified in parts 3, 4, 5, and 6, the permit holder shall conduct a District-approved performance test within 60 days of startup. (Basis: Regulation 2-6-409.2)
  9. Source S-2 Cogeneration engine may be operated simultaneously with engine S-1 for a period of 90 calendar days after initial startup of engine S-1. At the conclusion of the 90 day period, engine S-2 shall be shutdown permanently and the source permanently archived. (Basis: Reg 2-2-410)
  10. Central Marin Sanitation Agency shall ensure that an annual performance test is conducted on this engine in accordance with District-approved test procedures to demonstrate ongoing compliance with the NOx, CO, NMHC, and SO2 limits specified in parts 3, 4, 5, and 6. (Basis: Regulation 2-6-409.2)
  11. To determine compliance with the above conditions, the Permit Holder shall maintain the following records and provide all of the data necessary to evaluate compliance with the above conditions, including the following information (Basis: Regulation 2-6-409.2):
    - a. Monthly records of the quantity of digester gas and natural gas burned at this source.
    - b. Monthly records of the total thermal input in BTU.
    - c. All records shall be retained onsite for five years from the date of entry, and made available for inspection by District staff upon request.
    - d. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable District Regulations. (Basis: Cumulative Increase, BAAQMD 9-1-304)


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COND# 20666 applies to S# 11

1. The OPW EVR Phase I Vapor Recovery System, including all associated plumbing and components, shall be operated and maintained in accordance with the most recent version of California Air Resources Board (CARB) Executive Order VR-102. Section 41954(f) of the California Health and Safety Code prohibits the sale, offering for sale, or installation of any vapor control system unless the system has been certified by the state board.

2. The owner or operator shall conduct and pass a Rotatable Adaptor Torque Test (CARB Test Procedure TP201.1B) and either a Drop Tube/Drain Valve Assembly Leak Test (TP201.1C) or, if operating drop tube overflow prevention devices ("flapper valves"), a Drop Tube Overflow Prevention Device and Spill Container Drain Valve Leak Test (TP201.1D) at least once in each 36-month period. Measured leak rates of each component shall not exceed the levels specified in VR-102.

The applicant shall notify Source Test by email at [gdfnotice@baaqmd.gov](mailto:gdfnotice@baaqmd.gov) or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted within fifteen (15) days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter "Annual" in lieu of the application number.) Test results may be submitted by email ([gdfresults@baaqmd.gov](mailto:gdfresults@baaqmd.gov)), FAX (510) 758-3087) or mail (BAAQMD Source Test Section, Attention Hiroshi Doi, 939 Ellis Street, San Francisco CA 94109).

COND# 22820 applies to S# 15

1. The owner/operator shall not exceed 20 hours per year per engine for reliability-related testing.  
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e) (2) (A) (3) or (e) (2) (B) (3)]
2. The owner/operator shall operate each emergency standby


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engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits is not limited.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e) (2) (A) (3) or (e) (2) (B) (3)]

3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.  
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection(e) (4) (G) (1)]

4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.

- a. Hours of operation for reliability-related activities (maintenance and testing).
- b. Hours of operation for emission testing to show compliance with emission limits.
- c. Hours of operation (emergency).
- d. For each emergency, the nature of the emergency condition.
- e. Fuel usage for each engine(s).

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e) (4) (I), (or, Regulation 2-6-501)]

5. At School and Near-School Operation:



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If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:  
The owner/operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

- a. Whenever there is a school sponsored activity (if the engine is located on school grounds)
- b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session. "School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e) (2) (A) (1)] or (e) (2) (B) (2)]

~~~~~ END OF CONDITIONS ~~~~~

| S#          | Source Description                         | Annual Average lbs/day |     |      |      |     |
|-------------|--------------------------------------------|------------------------|-----|------|------|-----|
|             |                                            | PART                   | ORG | NOx  | SO2  | CO  |
| 1           | Cogeneration Engine #2, 1050 bhp, 750 Kwe  | 4.12                   | 107 | 76.6 | 7.11 | 179 |
| 3           | Boiler Fired with Sludge Gas or Natural Ga | -                      | -   | .1   | .01  | -   |
| 4           | Boiler Fired with Sludge Gas or Natural Ga | -                      | -   | .1   | .01  | -   |
| 5           | Waste Sludge Gas Burner (Standby Only)     | -                      | -   | -    | -    | -   |
| 6           | Waste Sludge Gas Burner (Standby Only)     | -                      | -   | -    | -    | -   |
| 11          | Non Retail Gasoline Dispensing Facility    | -                      | 0   | -    | -    | -   |
| 15          | Emergency Standby Genset, Diesel 1135 HP   | .11                    | 0   | 1.5  | -    | 0   |
| 16          | Emergency Standby Genset, Diesel, 77 HP    | -                      | -   | 0    | -    | -   |
| 100         | Municipal Wastewater Treatment Plant       | -                      | 14  | -    | -    | -   |
| 110         | Preliminary Treatment                      | -                      | -   | -    | -    | -   |
| 120         | Primary Treatment                          | -                      | -   | -    | -    | -   |
| 130         | Secondary Treatment                        | -                      | -   | -    | -    | -   |
| 140         | Secondary Clarifiers                       | -                      | -   | -    | -    | -   |
| 150         | Disinfection                               | -                      | -   | -    | -    | -   |
| 160         | Sludge Handling                            | -                      | -   | -    | -    | -   |
| 170         | Anaerobic Digestors                        | -                      | -   | -    | -    | -   |
| T O T A L S |                                            | 4.23                   | 121 | 78.3 | 7.14 | 180 |

\*\* PLANT TOTALS FOR EACH EMITTED TOXIC POLLUTANT \*\*

| Pollutant Name                           | Emissions lbs/day |
|------------------------------------------|-------------------|
| Benzene                                  | .19               |
| Formaldehyde                             | 1.31              |
| Perchloroethylene                        | .40               |
| Toluene                                  | 1.32              |
| 1,1,1-trichloroethane (with dioxane)     | .01               |
| Trichloroethylene                        | .02               |
| Xylene                                   | .71               |
| Chloroform                               | 1.36              |
| Methylene chloride                       | 1.49              |
| Dichlorobenzene                          | .34               |
| Diesel Engine Exhaust Particulate Matter | .11               |