
**BAY AREA AIR QUALITY
MANAGEMENT DISTRICT**

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

**PERMIT
TO OPERATE**

Plant# 5905

Page: 1

Expires: FEB 1, 2014

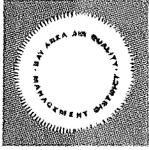
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 Mark Bowers
 City of Sunnyvale/Public Works Dept
 P O Box 3707
 Sunnyvale, CA 94088

 Location: 301 Carl Road
 Sunnyvale, CA 94089

S#	DESCRIPTION	[Schedule]	PAID
1	MISC-HDLG> Material handling, Solid waste - other/not spec Solid Waste Transfer Station Abated by: A1 Water Spray System	[F]	299
2	MISC-HDLG> Material handling, Wood - other/not spec Wood Waste Unloading Operation	[F]	299
3	MISC> Waste material grinding, Hogged wood, 17 tons/hr max Wood Shredder Abated by: A5 Baghouse, Pulse Jet	[G1]	1292
4	MISC-HDLG> Material handling, Hogged wood, 17 tons/hr max Conveyor	[F]	299
5	MISC-HDLG> Storage, Hogged wood Wood Chip Processing Hoppers (feeding and loadout)	[F]	299
6	MISC-HDLG> Material handling, Hogged wood, 55 tons/hr max Wood Chip Screening Operation	[F]	299
7	Standby Diesel engine, 540 hp, Detroit Diesel, 736 cu in Diesel Engine for an Emergency Standby Generator	[B]	214

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
8	CHEM> Landfill with gas collection system, Multi-material City of Sunnyvale Sanitary Landfill with Gas Collection S Abated by: A8 Flare A3 Adsorption, Activated Carbon/Charcoal Emissions at: P1 Stack	[K]	1427
9	Fixed roof tank, 1K gal, Waste water - other/not spec Condensate Feed Storage Tank	[exempt]	0

8 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# 5367
Source# 2	subject to Condition ID# 5368
Source# 3	subject to Condition ID# 5369
Source# 4	subject to Condition ID# 5370
Source# 5	" " " ID# 5370
Source# 6	subject to Condition ID# 5371
Source# 7	subject to Condition ID# 18922
Source# 8	subject to Condition ID# 11586



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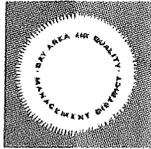
COND# 5367 applies to S# 1

FOR: S-1 SOLID WASTE TRANSFER STATION

- 1. Daily throughput of refuse shall not exceed 1,500 tons in any consecutive 24 hour period.

COND# 5368 applies to S# 2

- 1. The owner/operator shall not accept building demolition debris. (basis: Cumulative Increase, BACT, Toxics)
- 1. The owner/operator shall not accept building demolition debris. (basis: Cumulative Increase, BACT, Toxics)
- 2. The owner/operator shall not dispose of wood wastes outside of the wood shredder building. (basis: Cumulative Increase, BACT)
- 2. The owner/operator shall not dispose of wood wastes outside of the wood shredder building. (basis: Cumulative Increase, BACT)
- 3. The owner/operator shall not exceed processing 298 tons of wood waste per day. (basis: Cumulative Increase, BACT)
- 3. The owner/operator shall not exceed processing 298 tons of wood waste per day. (basis: Cumulative Increase, BACT)
- 4. The owner/operator shall always control particulate emission from source S-2 by receiving only wetted material from S-1 and green waste directly. (basis: Cumulative Increase, BACT)
- 4. The owner/operator shall always control particulate emission from source S-2 by receiving only wetted material from S-1 and only green waste directly. (basis: Cumulative Increase, BACT)
- 5. The owner/operator shall demonstrate compliance with Parts 1 and 3 by maintaining the following records on a daily basis, and provide all of the data necessary to evaluate compliance with Parts 1 and 3 including the following information
- 5. The owner/operator shall demonstrate compliance with Parts 1 and 3 by maintaining the following records on a daily basis, and provide all of the data necessary to evaluate compliance with Parts 1 and 3 including the following information
 - a. Type of waste received


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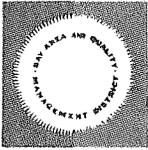
- =====
- a. Type of waste received
 - b. Amount of waste processed in tons per day
 - b. Amount of waste processed in tons per day

The owner/operator shall maintain all records in a District-approved log. The records shall be retained on-site for five years from the date of entry and make them available for inspection by District staff upon request. These

These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Cumulative Increase, Recordkeeping)

COND# 5369 applies to S# 3

1. The owner/operator shall not accept building demolition debris. (basis: Cumulative Increase, BACT, Toxics)
2. The owner/operator shall ensure that the wood shredder shall be enclosed and operate within the wood shredder building at all times. (basis: Cumulative Increase)
3. The owner/operator shall not exceed daily throughput limit of 255 tons of wood waste per day (basis: Cumulative Increase, BACT)
4. The owner/operator shall at all times abate S-3 with properly maintained Baghouse A-5 (basis: Cumulative Increase)
5. The owner/operator shall equip A-5 Baghouse with a District approved manometer for measuring the pressure drop across the baghouse. The baghouse exhaust shall be checked weekly for evidence of particulate breakthrough. If breakthrough is evident from plume observations, dust buildup near the stack outlet, or abnormal pressure drops, the filter bags shall be repaired or replaced as needed. (basis: Cumulative Increase)
6. In order to demonstrate compliance with Part 4, the



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owner/operator shall maintain in a District approved log, all inspections and maintenance work including bag replacement for the baghouse. Records of each inspection shall consist of the date of inspection and the initials of the personnel that inspects the baghouses. These records shall be kept on site and made available for District inspection for a period of at least five years from the date on which a record is made. (basis: Recordkeeping)

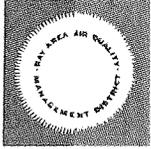
- 7. To determine compliance with Parts 1 and 3, the owner/operator shall maintain the following records on a daily basis:
 - a. Type of waste received
 - b. Amount of waste processed in tons per day

The owner/operator shall maintain all records in a District approved log. The records shall be retained on-site for five years from the date of entry and make them available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Cumulative Increase, Recordkeeping)

COND# 5370 applies to S#'s 4, 5

- 1. The owner/operator shall not exceed daily throughput limit of 255 tons of wood waste per day. (basis: Cumulative Increase, BACT)
- 2. To determine compliance with Part 1, the owner/operator shall maintain the following records on a daily basis, and provide all of the data necessary to evaluate compliance including the following information:
 - a. Type of waste received
 - b. Amount of waste processed in tons per day

The owner/operator shall maintain all records in a District-approved log. The records shall be retained on-site for five years from the date of entry and make them available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable



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District Regulations. (basis: Cumulative Increase,
Recordkeeping)

COND# 5371 applies to S# 6

S-6: Wood Chip Screening Operation

1. The owner/operator shall not exceed a daily throughput limit of 255 tons of wood waste per day. (basis: Cumulative Increase, BACT)
2. The owner/operator shall keep the material wet during screening operation. (basis: Cumulative Increase, BACT)
3. To determine compliance with Part 1, the owner/operator shall maintain the following records on a daily basis
 - a. Type of waste received
 - b. Amount of waste processed in tons per day

The owner/operator shall maintain these records in a District approved log. The records shall be retained On site for five years from the date of entry and make them available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (basis: Cumulative Increase, Recordkeeping)

COND# 11586 applies to S# 8

S-8 City of Sunnyvale Landfill Gas Control and Collection System Abated by A-9 Flare Located at Plant 5905 and IC Engines S-14 and S-15 Located at Plant 733

1. The owner/operator shall ensure that all landfill gas collected by the landfill gas collection system for the S-8 City of Sunnyvale Sanitary Landfill is vented to either the IC Engines S-14 and S-15 located at Plant



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#733 and/or to A-9 Landfill Gas Flare located at Plant #5905. If only one IC Engine (S-14 or S-15) is operating, the owner/operator shall ensure that the A-9 Flare is operated concurrently with the operating single IC Engine. (Basis: Regulations 8-34-301 and 8-34-301.1)

2. The owner/operator shall operate the landfill gas collection system described in Part 3a below continuously. Wells shall not be disconnected or removed from operation nor shall isolation or control valves be closed without written authorization from the District unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 117, and 118 (Basis: Regulations 8-34-301, 8-34-303, and 8-34-304)

3. The owner/operator of S-8 shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described in Part 3a below. Increasing or decreasing the number of wells or collectors or significantly changing the locations, depths, or lengths of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement:

a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations depths, and lengths of associated piping are as described in detail in Permit Application #2229.

Required Vertical Wells: 66

Required Horizontal Collectors: 13

(Basis: Regulations 8-34-303 and 8-34-305)

4. The A-9 Landfill Gas Flare shall be properly operated and properly maintained during all hours of operation. Digester gas may be blended with landfill gas and vented to A-9, as necessary to maintain proper operation of A-9. Raw landfill gas or raw landfill-digester gas blend shall not be vented to the atmosphere, except for unavoidable gas emissions that occur during collection system installation, maintenance or repair, which is performed in compliance with Regulation 8, Rule 34, Sections 113, 117, or 118, and for inadvertent component or surface leaks that do not exceed the limits specified in Regulation 8-34-301.2 or 8-34-303.

(Basis: Regulations 8-34-301 and 8-34-301.1)


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5. A temperature monitor with readout display and continuous recorder (recording thermocouple) shall be installed and maintained on the A-9 Landfill Gas Flare. One or more thermocouples shall be placed in the primary combustion zone of the A-9 Flare and shall accurately indicate combustion temperature at all times. Temperature charts shall be retained for at least five years and made available at all times for District inspection.
(Basis: Regulations 8-34-501.3, 8-34-501.6, and 8-34-507)
6. The owner/operator shall equip A-9 Landfill Gas Flare with a flow meter to measure landfill gas and digester gas flow rate into the flare
(Basis: Regulation 8-34-and Cumulative Increase)
7. The owner/operator shall equip A-9 Landfill Gas Flare with both local and remote alarm systems that automatically notify an operator in the event of power failures, flare temperature excursions, flare restart, failures, and other emission control system operating problems. (Basis: Regulation 8-34-301)
8. Deleted
9. The owner/operator shall operate A-9 Landfill Gas Flare to not exceed 0.06 pounds per/MM Btu (HHV) of NOX, while abating landfill gas and/or digester gas. Compliance with this limit may be demonstrated by having an outlet concentration of no more than 14 ppmv of NOX, expressed as NO2, at 15% oxygen, dry basis. (Basis: RACT).
10. The owner/operator shall operate A-9 Landfill Gas Flare to not exceed 0.2 pounds per/MM Btu (HHV) of CO, while abating landfill gas and/or digester gas. Compliance with this limit may be demonstrated by having an outlet concentration of no more than 74 ppmv of CO at 15% oxygen, dry basis. (Basis: RACT)
11. The owner/operator shall operate A-9 Landfill Gas Flare to not exceed 30 ppmv of non-methane organic compound (NMOC) emission at 3% oxygen while abating landfill gas and/or digester gas. (Basis: Regulation 8-34-301.3)
12. To demonstrate compliance with Part 10 and 11, the owner/operator shall maintain combustion zone temperature of Landfill Gas Flare A-9 at a minimum temperature of 1400 degrees F, averaged over any 3-hour period. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise this temperature limit, based on the


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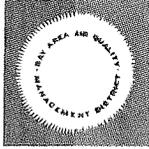
 *** PERMIT CONDITIONS ***

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following criteria. The minimum combustion zone temperature for A-9 shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F. To demonstrate compliance with this requirement, A-9 shall be equipped with a continuous temperature monitor, which shall consist of one or more thermocouples located in the primary combustion zone of the flare that accurately indicate combustion zone temperature at all times, and a continuous temperature recorder. (Basis: Regulations 8-34-301.3, 8-34-501.3, and 8-34-507)

13. To demonstrate compliance with Parts 9, 10 and 11 and Regulation 8-34-301.3, the owner/operator shall conduct an initial compliance demonstration test on A-9, within 60 days of initial start-up of A-9. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division and the Source Test Section within 60 days of the test date. This source test shall measure or determine the following:
- a. Landfill gas and digester gas flow rate to the flare (dry basis);
 - b. Concentrations (dry basis) of carbon dioxide (CO₂), nitrogen N₂, oxygen (O₂), methane (CH₄), hydrogen sulfide (H₂S) and total non-methane organic compounds (NMOC) in the landfill gas and digester gas;
 - c. Stack gas flow rate from the flare (dry basis);
 - d. Concentrations (dry basis) of NO_x, CO, NMOC, CH₄, SO₂ and O₂ in the flare stack gas;
 - e. NO_x and CO emission rates from the flare in units of pounds per MM BTU;
 - f. NMOC destruction efficiency achieved by the flare;
 - g. Average combustion zone temperature in the flare during the test period.

(Basis: RACT and Regulation 8-34-301.3)


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COND# 18922 applies to S# 7

For: S-7 DIESEL ENGINE FOR AN EMERGENCY STANDBY GENERATOR

1. Hours of Operation: S-7 shall only be operated to mitigate emergency conditions or for reliability-related activities. Operation for reliability-related activities shall not exceed 100 hours in any calendar year. Operation while mitigating emergency conditions is unlimited. (Basis: Regulation 9-8-330)
2. "Emergency Conditions" is defined as any of the following:
 - a. Loss of regular natural gas supply.
 - b. Failure of regular electric power supply.
 - c. Flood mitigation.
 - d. Sewage overflow mitigation.
 - e. Fire.
 - f. Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.
 (Basis: Regulation 9-8-231)
3. "Reliability-related activities" is defined as any of the following:
 - a. Operation of an emergency standby engine to test its ability to perform for an emergency use, or
 - b. Operation of an emergency standby engine during maintenance of a primary motor.
 (Basis: Regulation 9-8-232)
4. The emergency standby engine shall be equipped with a non-resettable totalizing meter that measures and records the hours of operation for the engine. (Basis: Regulation 9-8-530)
5. Records: The following monthly records shall be maintained in a District-approved log for at least 2 years and shall be made available for District inspection upon request:
 - a. Total hours of operation.
 - b. Hours of operation under emergency conditions and a description of the nature of each emergency condition.
 - c. Fuel usage.



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(Basis: Regulation 9-8-530, 1-441)

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

| S#          | Source Description                         | Annual Average lbs/day |     |      |     |    |
|-------------|--------------------------------------------|------------------------|-----|------|-----|----|
|             |                                            | PART                   | ORG | NOx  | SO2 | CO |
| 1           | Solid Waste Transfer Station               | 4.65                   | -   | -    | -   | -  |
| 2           | Wood Waste Unloading Operation             | .03                    | -   | -    | -   | -  |
| 3           | Wood Shredder                              | .02                    | -   | -    | -   | -  |
| 4           | Conveyor                                   | .24                    | -   | -    | -   | -  |
| 5           | Wood Chip Processing Hoppers (feeding and  | .07                    | -   | -    | -   | -  |
| 6           | Wood Chip Screening Operation              | .07                    | -   | -    | -   | -  |
| 7           | Diesel Engine for an Emergency Standby Gen | .07                    | .07 | .94  | -   | .2 |
| 8           | City of Sunnyvale Sanitary Landfill with G | -                      | -   | .13  | -   | -  |
| 9           | Condensate Feed Storage Tank               | -                      | -   | -    | -   | -  |
| T O T A L S |                                            | 5.14                   | .07 | 1.07 |     | .2 |

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

| Pollutant Name<br>-----                  | Emissions lbs/day<br>----- |
|------------------------------------------|----------------------------|
| Diesel Engine Exhaust Particulate Matter | .07                        |