

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT STATIONARY SOURCE COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	PAGE 1
	APPL NO 476972	DATE 6/21/10
	PROCESSED BY	CHECKED BY

APPLICANT:

Toyon Landfill Gas Conversion, LLC
 Foster Plaza 10 5th Floor
 680 Anderson Drive
 Pittsburgh, PA 15220

EQUIPMENT LOCATION:

5050 Mount Hollywood Way
 Los Angeles, CA 90027

EQUIPMENT DESCRIPTION:

PORTABLE HEATER, NORTHSTAR, 353,700 BTU/HR, DIESEL FUELED WITH A 13 HP GASOLINE FUELED WATER PUMP, USED FOR PRESSURE WASHING.

PROCESS DESCRIPTION:

This equipment has replaced A/N 436257. The heater is used to generate hot water and steam which is used in a portable high pressure washer. The washer is used for various cleaning operations within the facility specifically the engines. Whenever maintenance work is scheduled to be done on the engines, they will be spray washed to remove the oil and grease. The heater is operated on diesel fuel and the water pump is operated on gasoline.

EMISSION CALCULATIONS:

Diesel fueled heater.

Emission factors from CATEF (Diesel).

Operation = 8 hr/day, 1 day/wk, 50 wks/yr

Fuel usage: 353,700 btu/hr x gal/135,000 btu = 2.62 gal/hr

Average schedule: 2.62 gal/hr x 4.5 hr/day x 4.33 days/month = 51 gal/month (applicant)

Emissions from the heater:

	EF, lb/ 1000 gal	use, gal/hr	lb/hr	lb/ day	lb/ mo
ROG	1.32	2.62	0.0035	0.02	0.07
NOX	20	2.62	0.0524	0.24	1.02
SOX	0.2	2.62	0.0005	0.00	0.01
CO	5	2.62	0.0131	0.06	0.26
PM10	2	2.62	0.0052	0.02	0.10

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT STATIONARY SOURCE COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	PAGE 2
	APPL NO 476972	DATE 4/4/08
	PROCESSED BY	CHECKED BY

Gasoline fueled engine for water pump.

ROG, NOx and PM emission factors from EPA420-R-05-019.

Sox and CO emission factors from Form B1.

Fuel usage (28% eff.):

$$13 \text{ hp/hr} \times 2547 \text{ btu/hp} \times 1/0.28 = 118,253 \text{ btu/hr}$$

$$118,253 \text{ btu/h} / 110,250 \text{ btu/gal} = 1.07 \text{ gal/hr}$$

Emissions from engine:

	EF, lb/ 1000 gal	use, gal/hr	lb/hr	lb/ day	lb/ mo
SOX	5.3	1.07	0.0057	0.03	0.11
CO	3940	1.07	4.2158	18.9	82.14

	EF, gram/ bhp-hr	HP	lb/hr	lb/ day	lb/ mo
ROG	5.2	13	0.1489	0.67	2.90
NOX	3.5	13	0.1002	0.45	1.95
PM10	0.06	13	0.0017	0.01	0.03

Total emissions (gasoline + diesel):

	lb/hr	lb/day	lb/mo	30- day
ROG	0.152	0.69	2.97	0
NOX	0.153	0.69	2.97	0
SOX	0.006	0.03	0.12	0
CO	4.229	19.03	82.40	3
PM10	0.007	0.03	0.14	0

Estimated Exhaust Flow Rate (heater)

From EPA Method 19, Table 19-2, Oil Fd = 9190 dscf/million btu

Assume exhaust O2 = 3%.

$$\text{Exhaust Flow Rate} = 9190 * (.3537 / 60) * 20.9 / (20.9 - 3) = 63 \text{ scfm}$$

RULES EVALUATION:

Rule 212: This is not significant project. There is no school (K thru 12) within 1000 feet, emissions do not exceed section g and risk is less than 1 in a million. A public notice is not required.

Rule 401: Visible emissions are not expected with proper maintenance and operational procedures.

Rule 402: Nuisance is not expected.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT STATIONARY SOURCE COMPLIANCE DIVISION PERMIT APPLICATION PROCESSING AND CALCULATIONS	PAGES	PAGE 3
	APPL NO 476972	DATE 4/4/08
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Rule 407: Heater emissions of CO expected to comply with 2000 ppm limit:
 $0.0131 \text{ lb/hr} * 379 * 1000000 / 60 / 28 / 63 = 47 \text{ ppm}$

Rule 409: Heater emissions of PM expected to comply with 0.1 grain/cf limit:
 $7000 * 0.0052 \text{ lb/hr} / 60 / 63 \text{ scfm} = 0.0096 \text{ grains/scf}$

Rule 431.2: Sulfur content shall not be greater than 15 ppmw. Equipment is in compliance.

Rule 1146.1: Heater is rated less than 2MM Btu/hr and therefore exempt from this rule.

Rule 1146.2: Heater is liquid fueled and is therefore not subject to this rule.

Rule 1147: Heater is in use and shall comply with the liquid-fueled limit on July 1 of the year it is 15 years old, however, since it is less than 400,000 btu/hr, it is allowed an additional 5 years to comply. A fuel or time meter is required.

Rule 1401: MICR is less than one in a million. Equipment is in compliance.

Reg XIII: BACT for the diesel heater is not required since emissions are less than 1 lb/day, as long as the heater is not used more than 18.9 hours in a day - monthly hours are expected to be less than this amount.

BACT for the gasoline engine is not required since it is less than 50HP (exempt). Emissions are less than Table A-1:

	Table A-1, lb/hr, < 2 mmbtuh	Actual, lb/hr
NOX	0.2	0.153
CO	11	4.229
PM10	1.2	0.007

Emissions offsets for ROG, NOx, SOx, and PM10 are not required based on the 30-day average emissions being zero. CO offsets are not required since it is in attainment.

Equipment is in compliance.

Reg XXX: This is a Title V facility. This is a De Minimis Significant Permit Revision since the emission increase is not greater than Table 1. Therefore, an EPA review is required.

CONCLUSION AND RECOMMENDATIONS:

This equipment is expected to comply with all applicable Rules and Regulations. A Permit to Operate is recommended after EPA review.