

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION PERMIT APPLICATION EVALUATION AND CALCULATIONS	PAGES 9	PAGE 1
	APPL NO 527409, 527410 & 527411	DATE 3/2/2012
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PERMIT TO CONSTRUCT/OPERATE (ALTERATION/MODIFICATION)

APPLICANT'S NAME: SUNSHINE CANYON LANDFILL

MAILING ADDRESS: 14747 SAN FERNANDO ROAD, SYLMAR, CA 91342

EQUIPMENT ADDRESS: 14747 SAN FERNANDO ROAD, SYLMAR, CA 91342

FACILITY ID #: 49111 (A/N's 527409, 527410 & 527411)

Application No. 527409

ALTERATION TO A LANDFILL GAS FLARING SYSTEM, PERMIT NO. F9412, CONSISTING OF:

1. CONDENSATE KNOCKOUT DRUM, 6'-0" DIA. X 12'-0" H. SEAM TO SEAM.
2. THREE BLOWERS, EACH 2292 SCFM, 40 H.P.
3. DRY SCRUBBER, PEERLESS, 3'0" DIA. X 10'-6" H.
4. FLARE, MCGILL, MODEL NO. EGF-125, 13'-0" DIA. X 50'-0" H. WITH A MULTI-JET BURNER, PROPANE GAS PILOT, ELECTRIC IGNITER, UV FLAME SENSOR, AUTOMATIC SHUTDOWN AND ALARM SYSTEM, AUTOMATIC COMBUSTION AIR REGULATING SYSTEM AND TEMPERATURE CONTROLLER.
5. LANDFILL GAS FLOW METER AND RECORDER.

BY ADDITION OF FLARE SYSTEM IDENTIFICATION NO. 1 TO THE EQUIPMENT DESCRIPTION, REMOVAL AND REPLACEMENT OF A BLOWER IN ITEM NO. 2 AND INCLUSION OF MODEL NUMBER FOR THE REMAINING TWO BLOWERS IN ITEM NO. 2:

LANDFILL GAS FLARING SYSTEM NO. 1 CONSISTING OF:

2. THREE BLOWERS, EACH 2292 SCFM, 40 H.P. ONE LAMSON MODEL NO. 862000020 GB, ONE LAMPSON MODEL NO. 86200200GB, EACH 40 HP, EACH 2292 SCFM, AND ONE GARDNER DENVER MODEL NO. 860, , 75 HP, 3000 SCFM. VENTING THE LANDFILL GAS COLLECTION SYSTEM.

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Application No. 527410

ALTERATION TO LANDFILL GAS FLARING SYSTEM NO. 8, PERMIT NO. F86506 CONSISTING OF:

1. CONDENSATE KNOCKOUT DRUM, 6'-0" DIA. X 10'-0" SEAM TO SEAM HEIGHT, WITH A MIST ELIMINATOR.
2. CONDENSATE PUMP, 1 H.P., 3 GPM, SERVING A CONDENSATE KNOCKOUT DRUM AND A PARTICULATE FILTER.
3. THREE BLOWERS, LAMPSON, MODEL 362-6D, EACH 45 H.P., ONE BLOWER FOR STANDBY, VENTING THE LANDFILL GAS COLLECTION SYSTEM.
4. PARTICULATE FILTER, PEERLESS, 3'-0' DIA. X 10'-6" H.
5. TWO FLAME ARRESTORS, ONE FOR LANDFILL GAS AND ONE FOR VAPORS FROM THE LEACHATE TREATMENT SYSTEM.
6. FLARE, MCGILL, MODEL NO. EGF-125, 13'-0' DIA. X 50'-0" H. WITH A MULTI-JET BURNER, PROPANE GAS PILOT, ELECTRIC IGNITER, UV FLAME SENSOR, AUTOMATIC SHUTDOWN AND ALARM SYSTEM, AUTOMATIC COMBUSTION AIR REGULATING SYSTEM AND TEMPERATURE CONTROLLER.
7. LANDFILL GAS FLOW METER WITH A RECORDER.
8. LANDFILL GAS EMERGENCY SHUT-OFF VALVE.

BY UPDATING EQUIPMENT DESCRIPTIONS AS SHOWN BELOW:

2. CONDENSATE PUMP, ~~1 H.P.~~, 0.75 H.P., 3 GPM, SERVING A CONDENSATE KNOCKOUT DRUM AND A PARTICULATE FILTER.
3. ~~THREE BLOWERS, LAMPSON, MODEL 362-6D, EACH 45 H.P.,~~ GARDNER DENVER, MODEL NO.S 86200024GB, 86200024000GB, AND 862000020GB, EACH 40 H.P., ONE BLOWER FOR STANDBY, VENTING THE LANDFILL GAS COLLECTION SYSTEM.
5. ~~TWO ONE FLAME ARRESTORS, ONE FOR LANDFILL GAS AND ONE FOR VAPORS FROM THE LEACHATE TREATMENT SYSTEM.~~

Application No. 527411

ALTERATION TO LANDFILL GAS FLARING SYSTEM NO. 3, PERMIT NO. F23230 CONSISTING OF:

1. CONDENSATE KNOCKOUT DRUM, 6'-0" DIA. X 10'-0" SEAM TO SEAM HEIGHT, WITH A MIST ELIMINATOR.
2. CONDENSATE PUMP, 1 H.P., 3 GPM, SERVING A CONDENSATE KNOCKOUT DRUM AND A PARTICULATE FILTER.

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3. THREE BLOWERS, LAMPSON, MODEL 362-6D, EACH 45 H.P., ONE BLOWER FOR STANDBY, VENTING THE LANDFILL GAS COLLECTION SYSTEM.
4. PARTICULATE FILTER, PEERLESS, 3'-0" DIA. X 10'-6" H.
5. TWO FLAME ARRESTORS, ONE FOR LANDFILL GAS AND ONE FOR VAPORS FROM THE LEACHATE TREATMENT SYSTEM.
6. FLARE, MCGILL, MODEL NO. EGF-125, 13'-0" DIA. X 50'-0" H. WITH A MULTI-JET BURNER, PROPANE GAS PILOT, ELECTRIC IGNITER, UV FLAME SENSOR, AUTOMATIC SHUTDOWN AND ALARM SYSTEM, AUTOMATIC COMBUSTION AIR REGULATING SYSTEM AND TEMPERATURE CONTROLLER.
7. LANDFILL GAS FLOW METER WITH A RECORDER.
8. LANDFILL GAS EMERGENCY SHUT-OFF VALVE.

BY UPDATING EQUIPMENT DESCRIPTION AS SHOWN BELOW:

3. THREE BLOWERS, LAMPSON, MODEL 362-6D, EACH 45 H.P., LAMSON, MODEL 862000020GB, EACH 40 H.P., ONE BLOWER FOR STANDBY, VENTING THE LANDFILL GAS COLLECTION SYSTEM.

BACKGROUND:

These applications were filed as result of AQMD inspection on 09-02-2011 and 09-16-2011 and subsequent Notice to Comply (copy of the NC has been attached in the application folder in attachment D) for incorrect horsepower ratings, make/model for the landfill gas extraction blowers and to increase the ROG emissions for the individual flares. This facility has been issued numerous NC's and NOV's in recent months mainly due to large number of odor complaints received from nearby residents. The facility is currently operating under an order of abatement (OA, case # 3448-13).

Application number 527409 will be used to replace an existing blower with a new larger blower for this flaring system (Flaring System No. 1). Although the new blower is rated at a higher capacity than the existing blower, the conditions limiting the amount of landfill gas treated by this flaring system will not be modified and will remain the same. Since the blower change out has yet to occur, this application will be processed as a new construction (regular processing fee).

Application numbers 527410 and 527411 will be used to reflect changes in equipment descriptions for Flaring Systems Number 8 and 3 respectively. In addition to the changes in the equipment description for Flaring System No. 3, applicant has also requested to restore the ROG emissions limit for this system from 0.25 lbs/hr to 0.63 lbs/hr, to be the same as its original permit limit and the same as the limit for Flare No. 8.

To summarize, A/N 527409 (Flaring System No. 1) will be used for replacement of an existing blower with a new larger blower, A/Ns 527410 (Flaring System No. 8) and 527411 (Flaring System No. 3) will be used to correct equipment description and to restore the ROG limits for Flare No. 3.

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Evaluation

Equipment Description Changes (A/Ns 527409, 527410 and 527411)

While the new operator of the landfill has no records of when the blowers or other modifications to Flaring Systems No. 3 or 8 did actually occur, applicant was able to provide additional information on the replacement blowers. Review of the replacement blower specifications suggests that the new blowers could perform adequately. In addition, review of the AQMD inspection and the source test reports for both flares indicate that the replaced blowers or the condensate pump did not have an adverse effect on the system's ability in gas collection effectiveness and operated in compliance with the existing conditions. One flame arrestor for flare no. 8 was removed from service because applicant has stopped flaring the vapors from the leachate treatment system and the in-line flame arrestor is no longer needed. Applicant will maintain the other in-line flame arrestor to protect the landfill gas supply line.

Applicant's request to replace one of the blowers at Flaring System No. 1 is because the existing blower is getting old and is no longer capable of pushing the desired flow through the flare. The specification on the new proposed blower has been reviewed and found to be acceptable. Applicant has confirmed that they will not exceed their current operating limits.

Since the equipment replaced in Flaring Systems No. 3 and 8, or the proposed replacement blower for the Flaring System No. 1 will not result in an increase in the amount of landfill gas collected or the permitted BTU rating of the flare, no increase in emissions as result of these modifications is expected and no further analysis will be necessary. The remainder of this evaluation will focus on the applicant's request to increase the ROG emissions for Flare System No. 3.

Changes in ROG Emissions for Flare 3 (A/N 527411):

Applicant has requested to restore the ROG emissions limit for Flare System 3 based on the recent S/T results. Flare 3 was granted a PC (Permit to Construct, A/N 207173) on 09-26-1991 with ROG limit of 0.63 lb/hr. Flare 3 began operation in 1997 and a source test was done in July 1999 before a PO (Permit to Operate) was issued on 11-18-1999. At the time of issuing the PO, the ROG emissions limit was reduced to 0.25 lb/hr based on the source test results, following a permitting practice at the time.

The following is a summary of the Source Test conducted in July 1999:

TNMOC's as Methane (Lb/hr) = 0.08
Landfill Gas Flow Rate = 1605 scfm
NMOC destruction efficiency = 99.7% (mass basis)
PO limit value of ROG emissions = 0.08 lb/hr x (4167/1605) x 1.20 = 0.25 lb/hr (factor of 1.2 was introduced to provide for a compliance margin)

Please see attachment B in application folder for detailed calculations which were done when PC was changed to PO.

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The following is a summary of the recent Source Test results for ROG emissions for Flare 3:

Applicant has not been able to maintain the emissions of ROG to below 0.25 lb/hr. The following S/T results show the ROG exhaust emissions for Flare :

AQMD Permit No.	Test Date	Operating Temp, F	Flare Inlet Flow (DSCFM)	Flare Inlet Flow (SCFM)	Flare Outlet TGNMOC (lb/hr as CH4)	Flare TGNMOC Efficiency (wt%)	Flare Outlet TGNMOC (ppmv as Hexane at 3% O2)	Flare Methane Efficiency
F23230	8/28/2007	1651	2900	3092	0.26	99	1	>99
F23230	9/21/2010	1624	3145	3259	0.74	98	3	>99
F23230	8/11/2011	1618	3086	3211	0.57	99	2	>99

Since the emission from the flare has exceeded the current permitted limit (0.25 lbs/hr) applicant is requesting to restore the ROG emissions back to the levels when this flare was initially permitted (0.63 lbs/hr - P/C stage). Although the requested increase is below the S/T data collected on 9/21/2010, applicant believes that based on their most recent S/T data, the flare will be able to comply with the requested limits.

Increasing ROG emissions to 0.63 lbs/hr from the current 0.25 lb/hr will result in an emission increase of:
 $(0.63 \text{ lb/hr} - 0.25 \text{ lb/hr}) \times 24 \text{ hr/day} = 0.38 \text{ lb/hr} \times 24 \text{ hr/day} = 9.12 \text{ lbs/day}$

NSR Emissions Entries for Flare 3:

Since the current NSR entry for flare 3 does not reflect the permitted emissions values, NSR entries will be corrected for all pollutant except for ROG which will have an increase in emissions.

RULES EVALUATION:

Rule 212:

Rule 212 (c)(1)- There is no school within 1000 feet of this site.

Rule 212 (c)(2)- Net emissions increase as a result of these modifications will not exceed emissions limits as specified in Rule 212 (g).

Rule 212 (c)(3)(A)(i)- Risk is less than 1 in a million.

Public notice is not required.

RULE 401: With proper operation and maintenance, equipment is expected to comply with this rule.

RULE 402: With proper operation, maintenance and monitoring of equipment, compliance is expected.

RULE 404: Compliance with this rule is expected for this flare.

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RULE 407: Compliance is expected.

RULE 409: Compliance is expected.

RULE 431.1: LFG for this facility has been well below allowable 150 ppmv H2S levels. Also, facility wide condition under Title V FP requires H2S concentration in LFG fuel to be less than 150 ppmv. Compliance is expected.

RULE 1150.1: Flares are required to comply with either non-methane organic compounds (NMOC) destruction efficiency of 98% by weight or to reduce outlet NMOC concentration to less than 20 ppmv (as hexane), dry basis as hexane at 3% oxygen. The flares are also expected to comply with the 99% efficiency for Methane destruction efficiency. Based on source test results, continued compliance is expected.

AQMD Permit No.	Test Date	Operating Temp, F	Flare Inlet Flow (DSCFM)	Flare Inlet Flow (SCFM)	Flare Outlet TGNMOC (lb/hr as CH4)	Flare TGNMOC Efficiency (wt%)	Flare Outlet TGNMOC (ppmv as Hexane at 3% O2)	Flare Methane Destruction Efficiency
F9412 (Flare 1)	8/30/2006	1631	2502	2684	0.509	97.09	3.01	>99
F23230 (Flare 3)	8/11/2011	1618	3086	3211	0.57	99	2	>99
F86506 (Flare 8)	8/30/2005	1545	1479	1599	0.351	98.84	3.65	>99

REG. XIII:

1303 (a) BACT/LAER:

Replacement of Landfill Gas blowers and other minor changes in equipment description will not result in emission increase therefore BACT is not triggered. Increase in ROG emission in Flare 3 would trigger BACT. AQMD has performed its own analysis for this type of equipment based on permitted limits at this site and has determined that appropriate emission factor for LAER should be 0.006 lbs of ROG/MMBTU:

Flaring System No. 1 permitted limit: 23 lbs/day or 0.96 lbs/hr or 0.0091 lbs/MMBTU

Flaring System No. 8 permitted limit: 0.63 lbs/hr or 0.006 lbs/MMBTU

Applicant is requesting to restore the ROG emission limit back to 0.63 lbs/hr, based on 0.006 lbs/MMBTU which would meet LAER.

Compliance with BACT/LAER is expected.

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Rule 1303 (b) Modeling:

Modeling analysis for all applicable pollutants was completed by the applicant and deemed acceptable by AQMD planning staff when PC was issued for flare 3. However, modeling for VOC is not required and therefore, restoration of ROG limit will not require any further

analysis. Also, modeling review is not applicable for blower replacement since there is no increase in emissions.

Emission Offsets:

This is a municipal solids waste landfill operations facility, and is considered an Essential Public Service (ESP) per Rule 1302 Definitions, (m) (7). Therefore, required offsets will be provided from the Priority Reserve Account (Rule 1309.1). All existing equipment complies with BRAC. Facility has only flares which meet BRAC.

Sensitive Zone Requirements: Not applicable as credits will be provided from the Priority Reserve.

Statewide Compliance:

Republic Services (applicant) has provided us the list of landfills being operated in CA and has affirmed that all the facilities are in compliance.

RULE 1401: Although applicant's request to increase ROG emissions to 0.63 lbs/hr for flare 3 results in an emission increase for ROG, original Modeling and Risk analysis (reviewed and approved by AQMD) was performed at the proposed increased limit and showed a risk of less than one in a million for the facility. Therefore, additional Rule 1401 risk analysis is not necessary and no further evaluation will be conducted. There is no change in emissions from the other requested modifications to the equipment description for the flares. Compliance is expected.

RULE 1401.1: Not applicable. This is an existing facility.

REG. XVII: Preventative Significant Deterioration (PSD) :

Rule 1701: This regulation sets forth preconstruction review requirements for stationary sources or modifications to an existing stationary source to comply with BACT and other requirements of this regulation where there is:

- An increase in potential to emit of an attained air contaminant at stationary sources or modification to a stationary source is at least 100 or 250 tons of attainment air contaminant per year depending on a source category,
- A significant emission increase at an existing stationary source, or
- A net emission increase at a major stationary source located within 10 km of a Class I area, if the emission increase would impact the Class I area by 1.0 ug/m3..

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The source may be interpreted as "combinations of permitted units, a project, or a Facility, then the potential to emit (PTE) emission limit can be 100 or 250 tons per year (TPY) depending on a source category.

The requirements of this regulation with the exception of Rule 1714 are not applicable to this evaluation because:

1. There are no increase in emissions from replacement of the blowers,
2. The proposed restoration of ROG emissions complies with BACT,
3. The ROG is not an attained air contaminant, and
4. This facility is not located within 10 km of a Class I area.

RULE 1714

The owner or operator must obtain a PSD permit for Greenhouse Gases (GHG) pursuant to this rule before beginning actual construction as defined in 40 CFR Part 52.21 (b)(11) of a new major stationary source or major modification to an existing major source as defined in 40 CFR part 52.21 (b)(1) [Major Stationary] and (b)(2) [Major Modification], respectively. Currently EPA has deferred biogenic carbon dioxide (CO2) emissions from combustion of biogenic sources. As such, GHG emission from the proposed project is less than 250 tons per year and CO2e emissions are less than 100,000 tons per year.

Compliance with requirements of Rule 1714 is expected.

REG XXX:

The changes to equipment description for flares 1, and 8 is considered a Minor Revision and increase in ROG emissions and modification to equipment description to flare 3 is considered De-Minimis Significant Revision per Rule 3000(b). Applicant has filed a Title V Revision application (A/N 526969) and this evaluation will be submitted to EPA for 45 day review. Compliance is expected.

FEDERAL REGS: 40 CFR PART 60 SUBPART WWW AND AAAA:

Title 40 Part 63 subpart AAAA - 63.1955 – If the landfill is operated in compliance with 40 CFR part 60 subpart WWW, it is in compliance with Title 40 part 63 subpart AAAA.

Title 40 part 60 subpart WWW - 60.752 - the site has a gas collection and control system installed in compliance with this subpart and is able to destroy NMOC by 98 percent or 20 PPMV by volume. The site is in Title V program and the applicant is aware of federal requirements for compliance with title 40 part 60 subpart WWW. Gas collection system is expected to be operated in accordance with the provisions of 60.753, 60.755, & 60.756.

40 CFR Part 64: Facility has submitted a CAM plan application (A/N 527679) with Title V renewal application (A/N 497632). Additional conditions to satisfy CAM conditions will be imposed in the permit conditions.

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CONCLUSION/RECOMMENDATION:

This equipment is expected to be in compliance with applicable AQMD Rules and Regulations. Issue a permit to operate, for the proposed alterations for Flares 1, 3 and 8 and change in ROG emissions limits for Flare 3 after EPA review and commenting period is completed.