

 <b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>STATIONARY SOURCE COMPLIANCE DIVISION</b>  <b>APPLICATION PROCESSING AND CALCULATIONS</b>	PAGES 8	PAGE 1
	APPL. NO. 346489	DATE 12/20/2013
	PROCESSED BY J. Nielsen	CHECKED BY

**PO no PC**

**APPLICANT'S NAME:** LUNDAY THAGARD COMPANY

**MAILING ADDRESS:** 9301 GARFIELD AVENUE  
SOUTH GATE, CA 90280

**EQUIPMENT ADDRESS:** 9302 GARFIELD AVENUE  
SOUTH GATE, CA 90280

**FACILITY ID NO.:** 800080  
RECLAIM NO<sub>x</sub> & SO<sub>x</sub> Cycle 2 Facility

**EQUIPMENT DESCRIPTION:**

FACILITY PERMIT SECTION D					
PROCESS 3	SYSTEM 6			SYSTEM CONDITIONS	
LOADING AND UNLOADING	CRUDE OIL/ASPHALT FLUX UNLOADING RACK NO. 6			<u>S31.2</u>	
Description	ID No.	Connecte d To	RECLAIM Source Type	Emissions* And Requirements	Conditions
UNLOADING ARM, TANK TRUCK, CRUDE OIL, ASPHALT FLUX, 3 TOTAL, DIAMETER 3 IN A/N: 346489	D253				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N: 346489	D254				H23.13

**BACKGROUND/HISTORY**

Lunday-Thagard Co. (LTR) operates a petroleum refinery located at 9302 Garfield Avenue in the city of South Gate. Lunday-Thagard is a small petroleum refinery that receives heavy crude oil from various sources and produces primarily asphalt. Other lighter end products such as gas oil and naphtha are produced and shipped to other refineries for further processing.

In 1998, after realizing that an existing crude oil/asphalt tank truck unloading rack (Rack No. 6) was operating without a permit, Lunday-Thagard Co. (LTR) submitted A/N 346489 for a permit to operate with no prior permit to construct. Current LTR staff believes this rack was installed in the 2<sup>nd</sup> or 3<sup>rd</sup> quarter of 1998.

The District received one (1) Permit to Operate without a Permit to Construct application on October 30, 1998 for one crude oil/asphalt flux unloading rack.

**COMPLIANCE RECORD REVIEW:**

The following was taken from the District's Compliance Tracking System for the period from December 1, 2010 through December 1, 2013. None of the NCs or NOV's, nor any complaints, apply to this unloading rack.

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Table 1: NOVs and NCs

Ticket Number	Ticket Type	Violation date	Violation Description	Current Status
P34686	NOV	05/16/13	RULE 1173 – VOC LEAK > 50,000 PPM FOUND DURING BLUE SKY INSPECTION	In Compliance
P34685	NOV	07/01/11	RULE 2004 – INACCURATE QCER FOR 1 <sup>ST</sup> AND 2 <sup>ND</sup> QUARTER OF 2011 RECLAIM PERIOD	In Compliance
P34674	NOV	05/06/11	RULE 1173, 203 – OPEN ENDED LINE, FAILURE TO NOTIFY AQMD OF PORTABLE BAKER TANKS ON SITE, FAILURE TO MAINTAIN BAKER TANK IN GOOD OPERATING CONDITION, FAILURE TO PROPERLY MONITOR VOC AT INLET AND OUTLET OF CARBON CANISTERS ASSOCIATED WITH BAKER TANKS NO. 1 AND NO. 2	In Compliance

**Rule 301 FEE EVALUATION:**

The following fees are applicable to these applications.

Table 2: Rule 301 Fees

<u>A/N</u>	<u>Equipment</u>	<u>Type</u>	<u>Fee Schedule</u>	<u>Fee Required, \$</u>	<u>Fees Paid, \$</u>	<u>R301 Amend Date</u>
346489	Crude Oil Unloading rack <small>*Higher fee for PO no PC</small>	10	D	\$6,495.00	\$4,330.00	6/12/1998
TOTAL:				\$6,495.00	\$4,330.00	
Net Fee Due:					\$2,165.00	

**PROCESS DESCRIPTION:**

This application is for an existing unpermitted truck off-loading rack with three (3) - 3” diameter unloading arms, two for crude oil and one for asphalt flux. This rack unloads crude oil to tanks D35, D46, and D68, and asphalt flux to tanks D37, D41, D42, D48, D64, D72, and D125.

**Emissions Calculations:**

Emission Increases: 1306(d)

Since this unloading arm was installed without a permit, pre-modification emissions are zero. The total post-modification, maximum potential to emit emissions are VOC emissions from fugitive components and are listed in Table 3. Emissions from unloading are realized as emissions at the respective storage tanks, so the only emissions associated with this unloading rack are those from fugitive components. Overall VOC emissions for this unloading arm are summarized in Table 4.

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Table 3: Fugitive Component Count for Unloading Rack No. 6

Valves	Sealed Bellows	All	0	0	0	0	0.00
	SCAQMD Approved I & M Program	Gas / Vapor	0	0	0	4.55	0.00
		Light Liquid (4)	0	69	69	4.55	0.86
		Heavy Liquid (5)	0	0	0	4.55	0.00
Pumps	Sealless Type	Light Liquid (4)	0	0	0	0	0.00
	Double Mechanical Seals or Equivalent Seals	Light Liquid (4)	0	2	2	46.83	0.26
		Single Mechanical Seals	Heavy Liquid (5)	0	0	0	46.83
Compressors	Gas / Vapor	All	0	0	0	9.09	0.00
Flanges (ANSI 16.5-1988)	All	All	0	88	88	6.99	1.69
Pressure Relief Valves	All	All	0	0	0	0	0.00
Process Drains with P-Trap or Seal Pot	All	All	0	0	0	9.09	0.00
Other (including fittings, hatches, sight-glasses, and meters)	All	All	0	21	21	9.09	0.52
Emissions Increase (lb/day)							3.32
Emission Increase 30 DA (lb/day):							3.37

- (1) Any component that was installed prior to installation/construction of this loading rack.
- (2) Any component that installed in/on this loading rack as constructed.
- (3) Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.
- (4) Heavy Liquid: streams with a vapor pressure equal to or less than that of kerosene (< 0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Table 4: Emission Summary and Offset Requirement

VOC		VOC (30DA)		Offset Req'd
lb/yr	lb/day	lb/hr	lb/day	lb/day
1213	3.32	0.14	3.37	4

\* An offset ratio of 1.2 to 1.0 is applied to the VOC emissions to determine the amount of Offsets required.

### EVALUATION AND RULE REVIEW:

#### Rule 212 – Standards for Approving Permits, Amended Nov. 14, 1997

- 212(a) This unloading rack is expected to operate without emitting air contaminants in violation of the provision of Division 26 of the State Health & Safety Code and District rules.
- 212(b) Not applicable.
- 212(c) Public notice is not required. This unloading rack is not within 1,000 ft of a school, does not have emission increases greater than those specified in 212(g), and does not have increases in emissions of TACs greater than one in a million.
- 212(d)-(e) Not applicable.
- 212(f) This application is for a Permit to Operate for equipment installed without a Permit to Construct. This equipment is subject to the requirements of Rule 212.

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212(g) Not applicable. Emissions do not exceed the thresholds listed.  
212(h) Not applicable.

**Rule 401 – Visible Emissions, Amended Nov. 9, 2001**

Visible emissions are not expected. Compliance with rule is expected.

**Rule 402 – Nuisance, Adopted May 7, 1976**

Nuisance complaints are not expected. Compliance with rule is expected.

**Rule 462 – Organic Liquid Loading, Amended May 19, 1999**

Since this is an unloading rack and not a loading rack, Rule 462 is not applicable.

**Rule 1173 – Fugitive Emissions of Volatile Organic Compounds, Amended February 6, 2009**

Rule 1173 categorizes leak types and stipulates maintenance & reporting requirements for fugitive components. LTR is required to include any fugitive components into their existing Rule 1173 inspection and maintenance program, and they have indicated that the fugitive components are tagged and part of the Rule 1173 I & M plan. Compliance is expected.

*REGULATION XIII – New Source Review*

**Rule 1303 – REQUIREMENTS, Amended April 20, 2001**

**Rule 1303(a)(1) - BACT**

The VOC emission increase is greater than 1 lb/day, therefore BACT is required for this unloading rack. BACT for fugitive components consists of leakless valves, except in certain cases. LTR has indicated that they have 69 valve components (for 23 valves). 15 components (5 valves) are check valves, which aren't commercially available as leakless valves and 54 valve components (18 valves) which require torsional stem motion to operate, which are both applications which are exempted from having leakless valves. Condition S31.2 has been applied to fugitives in this unloading rack indicating that this unloading rack is subject to BACT and has specific monitoring requirements for the fugitive components.

**Rule 1303(b)(1) – Modeling**

Modeling for VOC is not required. Not applicable.

**Rule 1303(b) (2) – Offsets**

Since emission increases are greater than 1 lb/day, offsets must be provided. 4 lbs of offsets will be provided.

**1303(b)(3) – Sensitive Zone Requirements**

Offsets will be provided prior to the issuance of the Permit to Construct from Zone 1.

**1303(b)(4) - Facility Compliance**

LTR is operating in compliance with all applicable rules and regulations of the District.

**1303(b)(5) – Major Polluting Facilities**

This refinery is a major polluting facility. With VOC emission increases of greater than 1 lb/day, this application is considered a major modification at an existing major polluting facility.

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1303(b)(5)(a) This paragraph is satisfied under Rule 1303(b)(5)(D)(i), where this project is exempt from CEQA.

1303 (b)(5)(b) LTR has submitted a certification of statewide compliance.

1303 (b)(5)(c) Not applicable.

1303(b)(5)(d) The operator has submitted information that this application is exempt from CEQA.

*REGULATION XIV – Toxics and Other Non-Criteria Pollutants*

**Rule 1401 – New Source Review of Toxic Air Contaminants, Amended July 10, 1998**

This rule specifies limits for Maximum Individual Cancer Risk (MICR), cancer burden, and non-cancer acute and chronic hazard index (HI) for new permit units, relocations, or modifications to existing permits which emit toxic air contaminants (TAC).

Tier 1 screening analysis was performed to determine the maximum one-hour and annual average emission rates of TAC released to atmosphere from the installation of fugitive components on this unloading rack. LTR submitted information on the TAC concentrations of materials unloaded in this rack. Tier 1 screening analysis was performed to determine the maximum annual average emission rates of TAC released to atmosphere for cancer screening. Chronic and acute screenings are not applicable to benzene at the time the application was deemed complete in 1998.

1401(d)(1) Tier 1 calculation shows the increase in MICR is less than one in one million at any receptor location; cancer burden is less than 0.5. Compliance is expected.

1401(d)(2) Not applicable.

1401(d)(3) Not applicable.

1401(d)(4) The risk per year is less than 1/70 of the one in one million allowable risk at any receptor location in residential area. Compliance is expected.

**Tier 1 Screening Value Calculations**

Application Screening Index (ASI) for cancer pollutants

Calculation is based on a 25 meter distance to the nearest receptor and the ROG emissions of 1211.8 lb/yr (3.32 lb/day). The Pollutant Screening Level (PSL) cancer values are from Table 1A, Package “C”, for applications deemed complete from October 9, 1998 through January 7, 1999.

Toxic Air Contaminants	Concentration (Wt%)	Qyr (lb/yr)	PSL <sub>cancer</sub> (lb/yr)	PSI (Qyr/PSL)
Benzene	0.069	0.836	1.14	0.733

The sum of the PSI is less than 1, so this passes Tier 1 screening.

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*REGULATION XXX – TITLE V PERMITS, Amended November 5, 2010*

Lunday-Thagard Co. was issued a final Title V operating permit on October 29, 2009. This application is classified as a de minimus significant permit revision as defined in 3000(b)(7), because the cumulative VOC emissions increase since the issuance of the initial Title V permit was issued is 7.8 lb/day, which is less than 30 lb/day. De minimus significant permit revisions are exempt from public participation per 3006(b); however the proposed permit revision is required to be submitted to the EPA per 3003(j)(1)(B) and to the State per 3003(m)(1).

The proposed de minimus significant permit revision shall be submitted to the EPA and State.

*STATE REGULATIONS*

**California Environmental Quality Act (CEQA)**

The applicant has submitted Form 400-CEQA, California Environmental Quality Act Applicability indicating that CEQA document is not required.

**FEDERAL REGULATIONS**

**NSPS for Petroleum Refinery Equipment VOC Leaks – 40CFR60 Subpart GGG**

Applicability: This regulation is applicable to affected facilities in refineries for which construction commenced after January 4, 1983 and on or before November, 7 2006. The following are affected facilities under this subpart:

- Compressors
- The group of all equipment within a process unit

As per §60.591, the definition of “Process Unit” includes product transfer racks; however, this definition has been stayed until further notice and the definition of “Process Unit” shown in §60.590(e) governs. Process unit is defined in §60.590(e) as components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplies with sufficient feed or raw materials and sufficient storage facilities for the product. This definition makes no mention of product transfer racks, so this subpart does not apply to the components associated with the unloading process.

**NESHAPS for Asphalt Processing & Asphalt Roofing – 40CFR63 Subpart AAAAAAA**

Applicability: As an ‘area source’ HAP source, the collection of the air blowing stills located at LTR is subject to the requirements of this subpart. The air blowing stills are not a part of this application, therefore this subpart does not apply.



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**RECOMMENDATION:**

It is recommended that a Permit to Operate be issued in the Facility Permit Section D subject to the following conditions:

DEVICE ID.	COND. NO.	CONDITION						
Process 3, System 6	S31.2	<p><u>The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 346489:</u></p> <p><u>All components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA Reference Method 21. All valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Reference Method 21.</u></p> <p><u>All components in VOC service, a leak greater than 500 ppm but less than 1,000 ppm measured as methane above background as measured using EPA Method 21, shall be repaired within 14 days of detection. A leak greater than 1,000 ppm shall be repaired according to Rule 1173. Components shall be defined as any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173.</u></p> <p><u>All valves in VOC service, except those specifically exempted by Rule 1173, shall be of leakless type, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose a safety hazard (e.g. drain valves with valve stems in horizontal position), retrofits/special applications with space limitations, and valves not commercially available.</u></p> <p><u>If 98.0 percent or greater of the valve and flange population inspected is found to leak gaseous or liquid VOC at a rate less than 500 ppm for two consecutive months, then the operator may revert to a quarterly inspection program with the approval of the Executive Officer.</u></p> <p><u>The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the district.</u></p> <p><b><u>[Rule 1303(a)(1)-BACT, 5-10-1996; Rule 1303(a)(1)-BACT, 12-6-2002; Rule 1030(b)(2)-Offset, 5-10-1996; Rule(b)(2)-Offset, 12-6-2002]</u></b></p> <p><u>[Systems subject to this condition: Process 3, System 6]</u></p>						
D254	H23.13	<p>This equipment is subject to the applicable requirements of the following rules or regulations:</p> <table border="1"> <thead> <tr> <th>Contaminant</th> <th>Rule</th> <th>Rule/ Subpart</th> </tr> </thead> <tbody> <tr> <td>VOC</td> <td>District Rule</td> <td>1173</td> </tr> </tbody> </table>	Contaminant	Rule	Rule/ Subpart	VOC	District Rule	1173
Contaminant	Rule	Rule/ Subpart						
VOC	District Rule	1173						



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DEVICE ID.	COND. NO.	CONDITION
		<p>[<del>Rule 1173, 5-13-1994</del>; Rule 1173, 2-6-2009]</p> <p>[Devices subject to this condition: D35, D45, D46, D47, D48, D49, D50, D51, D52, D68, D74, D251, D252, <u>D254</u>]</p>