



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



MAY 01 2014

Ms. Milinda Hicks
Kern Oil & Refining Company
7724 East Panama Lane,
Bakersfield CA 93307

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-37
Project # S-1134365

Dear Ms. Hicks:

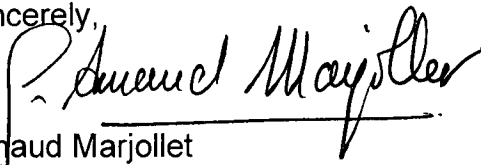
Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Kern Oil is proposing to increase the allowable TVP to 7.96 psia for tanks S-37-130 and '-131.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:WJ/st

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Increase the TVP to 7.96 psia for two floating roof tanks

Facility Name: Kern Oil & Refining Company Date: 4/22/14
Mailing Address: 7724 East Panama Lane, Engineer: William Jones
Bakersfield CA 93307 Lead Engineer: Allan Phillips *AP SWK AQL*
Contact Person: Melinda Hicks APR 28 2014
Telephone: 661-845-0761
Fax: 661-845-3561
E-Mail: mhicks@kernoil.com
Application #(s): S-37-130-2, S-37-131-2
Project #: S-1134365
Deemed Complete: 12/3/13

I. Proposal

Kern Oil & Refining Company (Kern Oil) is applying for an Authority to Construct (ATC) permit for the modification of two internal floating roof, 74,000 bbl. (3,108,000 gallon) organic liquid storage tanks. Kern Oil is proposing to increase the allowable TVP to 7.96 psia for tanks S-37-130 and '131. There is no proposed change in daily or annual throughput.

Kern Oil received their Title V Permit on 1/31/03. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Kern Oil must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (6/16/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4623 Storage of Organic Liquids (05/19/05)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at 7724 E Panama Lane in Bakersfield, CA. The facility is not located within 1,000 feet of the outer boundary of any K-12 school; therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

IV. Process Description

The 74,000 bbl. tanks operate as a crude oil storage tanks but may store other organic liquids such as diesel, kerosene, or virgin gas oil.

V. Equipment Listing

Pre-Project Equipment Description:

- S-37-130-1: 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74000)
- S-37-131-1: 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74001)

Proposed Modification:

- S-37-130-2: MODIFICATION OF ONE 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74000): INCREASE THE ALLOWABLE TVP TO 7.96 PSIA
- S-37-131-2: MODIFICATION OF ONE 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74001): INCREASE THE ALLOWABLE TVP TO 7.96 PSIA

Post Project Equipment Description:

- S-37-130-2: 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74000)
- S-37-131-2: 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74001)

VI. Emission Control Technology Evaluation

VOC is the only pollutant emitted by the tanks. The tanks are controlled by an internal floating roof.

In a floating roof tank, the tank roof floats on the surface of the stored liquid, there is no vapor space above the stored liquid. Consequently, working losses arising from displaced vapors during tank filling are minimized or eliminated. AP-42 section 7.1.2.2 describes VOC emissions from floating roof tanks as having two mechanisms: withdrawal losses and standing storage losses:

"Withdrawal losses occur as the liquid level, and thus the floating roof, is lowered and the liquid remaining on the inner tank wall surface evaporates. Evaporative loss occurs until the tank is filled and the exposed surfaces are again covered. Standing storage losses from floating roof tanks include rim seal and deck fitting losses. Other potential standing storage loss mechanisms include breathing losses as a result of temperature and pressure."

Tank seals reduce standing losses by minimizing the gap between the floating roof and the tank wall.

Floating roof tanks achieve a 95% VOC control efficiency (per SJVAPCD BACT Guideline 7.3.3).

VII. General Calculations

A. Assumptions

General:

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year. (per applicant)
- The tanks emit only volatile organic compounds (VOCs), sulfur content is negligible (per applicant)
- The tank paint condition is good and the color is gray. (per applicant)
- Self-supporting roof (per applicant)
- Tanks S-37-130-0 and '131-0 will have an specific limiting condition of 26,356 bbl./day and 9,620,000 bbl. per year (130.0 turnovers per year) (current permit)
- VOCs molecular weight, 50 lb./lb. mol. (per applicant)

Pre-project:

- TVP of oil = 4.7 psia (current permit)

Post-project:

- TVP of Oil = 7.96 psia (per applicant)

B. Emission Factors

Both the daily and annual PE's for each permit unit will be based on the results from Tanks 4.0 for internal floating roof tanks with crude oil TVP = 7.96 psia located in Appendix C.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The potential to emit for the operation is calculated as follows, and summarized in the table below:

Combined shared S-37-130-1 & '-131-1 VOC emissions (from PTO S-37-130-1 & -131-1)

PE1		
	Daily Emissions (lb./day)	Annual Emissions (lb./year)
VOC	15.4	5,210

2. Post Project Potential to Emit (PE2)

The potential to emit for the boiler is calculated as follows, and summarized in the table below (See Appendix C for PE2 calculations):

Combined shared PE2 for S-37-130-2, and '-131-2

$$\begin{aligned}\text{Daily PE} &= 7,466.05 \text{ lb.-VOC /yr.} / 365 \text{ day/yr.} \\ &= 20.5 \text{ lb.-VOC/day}\end{aligned}$$

$$\begin{aligned}\text{Annual PE} &= 7,466.05 \text{ lb.-VOC /yr.}\end{aligned}$$

PE2		
	Daily Emissions (lb./day)	Annual Emissions (lb./year)
VOC	20.5	7,466

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations are not necessary.

4. Post Project Stationary Source Potential to Emit (SSPE2)

Since facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	75.9	171.3	46.7	442.7	19.4	19.4	>100,000
PSD Major Source Thresholds	100	100	100	100	100	100	100,000
PSD Major Source ? (Y/N)	N	Y	N	Y	N	N	Y

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

Clean Emissions Unit, Located at a Major Source

Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

This emissions unit is equipped with an 95% Control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal), which meets the requirements for achieved-in-practice BACT. Therefore, BE=PE1.

As calculated in Section VII.C.1 above, PE1 is summarized in the following table:

BE (lb./year)	
	VOC
S-37-130-2	5210
S-37-131-2	

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is a major source, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required. Since both modified units share a combined throughput limit, The maximum combined PE2 is used.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb./year)	Threshold (lb./year)	SB 288 Major Modification Calculation Required?
NO _x	0	50,000	No
SO _x	0	80,000	No
PM ₁₀	0	30,000	No
VOC	7,466	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For existing emissions units, the increase in emissions is calculated as follows.

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

The applicant has provided the required historical and projected operation data (see **Appendix I**).

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

Where: PAE = Projected Actual Emissions, and

BAE = Baseline Actual Emissions

UBC = Unused baseline capacity

Therefore,

$$BAE = \{BEA\ 2011 + BEA\ 2012\}/2 = 844\ \text{lb. VOC /yr.}$$

$$PE2 = PAE = 7466.05\ \text{lb. VOC/yr.}$$

$$UBC = 0$$

$$\text{Emission Increase} = 7466.05\ \text{lb. VOC/yr.} - 844\ \text{lb. VOC/yr.} = 0$$

$$= 6,622\ \text{lb. VOC/yr.}$$

The project's combined total emission increases are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb./yr.)	Thresholds (lb./yr.)	Federal Major Modification?
NO _x *		0	No
VOC*	6,622	0	Yes
PM ₁₀		30,000	No
PM _{2.5}		20,000	No
SO _x		80,000	No

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0	0	0	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix F.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- Any new emissions unit with a potential to emit exceeding two pounds per day,
- The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb. /day

As discussed in Section I above, there are no new emissions units associated with this project. Therefore BACT for new units with PE > 2 lb./day purposes is not triggered.

b. Relocation of emissions units – PE > 2 lb. /day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb. /day

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb./day)

PE2 = Post-Project Potential to Emit, (lb./day)

HAPE = Historically Adjusted Potential to Emit, (lb./day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb./day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$AIPE = PE2 - (PE1 * (EF2 / EF1))$$

S-37-130-2 & '131-2:

$$\begin{aligned} AIPE &= 20.5 - (15.4 * (1/1)) \\ &= 20.5 - 15.4 \\ &= 5.1 \text{ lb. VOC/day} \end{aligned}$$

As demonstrated above, the AIPE is greater than 2.0 lb. /day for VOC emissions for any tank. Therefore BACT is triggered for VOC emissions.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute a Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC emissions.

2. BACT Guideline

BACT Guideline 7.3.3, applies to tanks S-37-130-0 and '131-0. [Floating Roof Organic Liquid Storage or Processing Tank, ≥ 471 bbl. Tank capacity, ≥ 0.5 psia TVP] (See Guideline in **Appendix D**)

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Appendix D**), BACT has been satisfied with the following:

VOC: Use of primary metal shoe seal with secondary wiper seal.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Applicability			
Pollutant	SSPE2 (lb./yr.)	Offset Threshold Levels (lb./yr.)	Offsets Required?
VOC	> 50,000	20,000	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb./year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb./year)

BE = Baseline Emissions, (lb./year)

ICCE = Increase in Cargo Carrier Emissions, (lb./year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit are equal to the PE1 since the unit is a Clean Emissions Unit.

Also, there is no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb./year) = $([PE2 - BE] + ICCE) \times DOR$

PE2 (VOC) = 7,466 lb./year

BE (VOC) = 5,210 lb./year

ICCE = 0 lb./year

Offsets Required (lb./year) = $([7,466 - 5,210] + 0) \times 1.5$
 = 3,384 lb. VOC/year
 = 836 lb. VOC/qtr.

Calculating the appropriate quarterly emissions to be offset is as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
846	846	846	846

The applicant has stated that the facility plans to use ERC certificate S-4118-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC # S-4118-1	2,500	2,500	2,500	2,500

As seen above, the facility has sufficient credits to fully offset the quarterly VOC emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter: 846 lb., 2nd quarter: 846 lb., 3rd quarter: 846 lb., and fourth quarter: 846 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-4118-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project is an Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb. /day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb. /day.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb./year)	SSPE2 (lb./year)	Offset Threshold	Public Notice Required?
NO _x	151,842	151,842	20,000 lb./year	No
SO _x	93,406	93,406	54,750 lb./year	No
PM ₁₀	38,726	38,726	29,200 lb./year	No
CO	885,355	885,355	200,000 lb./year	No
VOC	342,541	344,797	20,000 lb./year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb. /year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb. /year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb./year)	SSPE1 (lb./year)	SSIPE (lb./year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	151,842	151,842	0	20,000 lb./year	No
SO _x	93,406	93,406	0	20,000 lb./year	No
PM ₁₀	38,726	38,726	0	20,000 lb./year	No

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb./year)	SSPE1 (lb./year)	SSIPE (lb./year)	SSIPE Public Notice Threshold	Public Notice Required?
CO	885,355	885,355	0	20,000 lb./year	No
VOC	344,797	342,541	2,256	20,000 lb./year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb./year; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, this project does constitute a Federal Major Modification for VOC emissions. Therefore, public notice is required for this project.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

DELs for the emission units in this project will be included on the ATCs in the form of tanks' throughput and the tank contents' maximum true vapor pressure (TVP). The permittee will be required to maintain accurate records of tank content TVP and tanks monthly average daily throughput to validate the DEL. The following conditions will be included in the proposed permits.

Proposed Rule 2201 (DEL) Conditions:

- This tank shall only store, place, or hold organic liquid with a tank vapor pressure (TVP) of less than 7.96 psia under all storage conditions. [District Rule 4623] Y
- Combined VOC emission rate from tanks S-37-130 and '131 shall not exceed 20.5 lb./day and 7,466 lb./year. [District Rule 2201] Y
- The total organic liquid throughput for tanks S-37-130 and '131 shall not exceed either of the following: 26,356 barrels per day or 9,620,000 barrels per year. [District Rule 2201] Y

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

- Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623]
- Records shall be kept of each inspection performed. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [District NSR Rule]
- Operator shall keep a record of liquids stored in tank, period of storage, storage temperature, and the maximum true vapor pressure of such liquids. [District Rule 2201]
- {2490} All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix E** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. Kern Oil & Refining Company compliance certification is included in **Appendix H**.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes the modification of two internal floating roof, 74,000 bbl. tanks.

Since the project does not include the installation of a new unit, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2410 Prevention of Significant Deterioration

As demonstrated in Section VII C above, all post project emissions associated with this project are fugitive emissions; therefore, a Rule 2410 Major source determination was not required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Significant Modification to the Title V Permit.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40, Part 60, Subparts K, Ka, and Kb apply to any petroleum liquid storage vessel of greater than 40,000 gallons capacity that has commenced construction, modification, or reconstruction after June 11, 1973.

40 CFR Part 60, Subpart A, Section 14, defines the meaning of modification to which the standards are applicable. §60.14, paragraph (e)(5) states that the following will not be considered as a modification: *"the addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or*

replaced by a system which the Administrator determines to be less environmentally beneficial".

No newly constructed or reconstructed units are proposed in this project, nor is the unit being modified (as defined above). The requirements of these sections do not apply to these units.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity).

As long as the equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions.

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Appendix E**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-37-130-2 & '-131-2	9.07E-09	No

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in **Appendix E** of this report, the emissions increases for this project was determined to be less than significant.

Rule 4623, *Storage of Organic Liquids*

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids.

Per Section 2.0, this rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

Section 5.1, Requirements: VOC Control System Requirements

District Rule 4623 Section 5.1 requires that, except for small producers who are required to comply with the VOC control system requirements in Section 5.1.2, an operator shall not place, hold, or store organic liquid in any tank unless such tank is equipped with a VOC control system identified in Table 1. The specifications for the VOC control system are described in Sections 5.2, 5.3, 5.4, 5.5, and 5.6.

District Rule 4623 Section 5.1.1 identifies VOC control systems required for organic liquids storage tanks.

Tank Design Capacity (TDC) (gallon)	True Vapor Pressure (TVP) of Organic Liquid		
	0.5 < TVP (psia) <1.5	1.5 < TVP (psia) <11	11 < TVP (psia)
$1,100 \leq \text{TDC} \leq 19,800$	Pressure Vacuum Relief Valve, Or Internal Floating Roof, Or External Floating Roof, Or Vapor Recovery System	Pressure Vacuum Relief Valve, Or Internal Floating Roof, Or External Floating Roof, Or Vapor Recovery System	Pressure Vessel, Or Vapor Recovery System
$19,800 < \text{TDC} \leq 39,600$	Pressure Vacuum Relief Valve, Or Internal Floating Roof, Or External Floating Roof, Or Vapor Recovery System	Internal Floating Roof, Or External Floating Roof, Or Vapor Recovery System	Pressure Vessel, Or Vapor Recovery System
$39,600 < \text{TDC}$	Internal Floating Roof, Or External Floating Roof, Or Vapor Recovery System	Internal Floating Roof, Or External Floating Roof, Or Vapor Recovery System	Pressure Vessel, Or Vapor Recovery System

The applicant is proposing to operate each of these organic liquid storage tanks with an internal floating roof and is not proposing to store organic liquids with a TVP greater than 11 psia. Therefore, each new tank meets the VOC control system requirements of this section.

Section 5.4, Requirements: Specifications for Internal Floating Roof Tanks

Pursuant to Section 5.4.1, internal floating roof tanks shall be equipped with seals that meet the criteria set forth in Section 5.3 (Specifications for External Floating Roof Tanks), except for complying with the requirement specified in Section 5.3.2.1.3. For internal floating roofs, the metallic-shoe type seals shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface.

Each internal floating roof tank is equipped with a primary metal shoe seal and secondary wiper seal.

Section 5.4.2 indicates that, when installed and maintained to meet the gap criteria for primary and secondary seals set forth in Sections 5.3.2.1 through 5.3.2.3, the proposed seals are equivalent to seals meeting the criteria set forth in Section 5.3 (Specifications for External Floating Roof Tanks).

Therefore, the specific applicable requirements for the proposed seals will be discussed in Section 5.3.2.1 (Welded Tanks with Primary Metallic-Shoe Type Seal), and the following permit condition to comply with requirements of Section 5.4.1, will be listed on each permit as follows:

- This storage tank shall be equipped with a primary metal shoe seal with secondary wiper seal. [District Rules 2201 and 4623]

Section 5.3, Requirements: Specifications for External Floating Roof Tanks

Pursuant to Section 5.3.1.3, effective on and after December 20, 2001, the floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible. Whenever the operator intends to land the roof on its legs, an operator shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. The required information to be included in the written notification as well as the recordkeeping requirements is specified in Section 6.3.7.

- The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal roof shall be floating on the liquid surface except during initial fill and when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five days prior to performing the work. [District Rule 4623, and 40 CFR 60.112b(a)(i)]

Pursuant to Section 5.3.2.1.1, no gap between the tank shell and the primary seal shall exceed one and one half (1-1/2) inches. The cumulative length of all gaps between the tank shell and the primary seal greater than one-half (1/2) inch shall not exceed ten (10) percent of the circumference of the tank. The cumulative length of all primary seal gaps greater than one-eighth (1/8) inch shall not exceed 30 percent of the tank circumference. No continuous gap greater than one eighth (1/8) inch shall exceed ten (10) percent of the tank circumference.

The following permit conditions will be listed on each permit as follows:

- Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623]
- The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623]
- The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623]

- No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623]

Pursuant to Section 5.3.2.1.2, no gap between the tank shell and the secondary seal shall exceed one-half (1/2) inch. The cumulative length of all gaps between the tank shell and the secondary seal, greater than one-eighth (1/8) inch shall not exceed five (5) percent of the tank circumference.

The following permit conditions will be listed on each permit as follows:

- No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623]
- The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623]

Pursuant to Section 5.3.2.1.3, the metallic-shoe-type seals shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 24 inches above the stored liquid surface. But as discussed in Section 5.4.1, for internal floating roof, the metallic-shoe type seals shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface.

Therefore, since the applicant proposed to install on each internal floating roof tank an primary metal shoe seal with secondary wiper seal, the following permit condition will be listed on each permit as follows:

- The primary metal shoe seal with secondary wiper seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623]

Pursuant to Section 5.3.2.1.4, the geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell is no greater than double the gap allowed by the seal gap criteria specified in Section 5.3.2.1.1 for a length of at least 18 inches in the vertical plane above the liquid surface.

Since the applicant proposed to install on each internal floating roof tank a primary metal shoe seal with secondary wiper seal, the following permit condition will be listed on each permit as follows:

- The geometry of the primary metal shoe seal with secondary wiper seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623]

Pursuant to Section 5.3.2.1.5, there shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal.

The following permit condition will be listed on each permit as follows:

- There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623]

Pursuant to Section 5.3.2.1.6, the secondary seal shall allow easy insertion of probes up to one and one-half (1-1/2) inches in width in order to measure gaps in the primary seal.

The following permit condition will be listed on each permit as follows:

- The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623]

Pursuant to Section 5.3.2.1.7, the secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal.

The following permit condition will be listed on each permit as follows:

- The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623]

Section 5.5, Requirements: Floating Roof Deck Fitting Requirements

Pursuant to Section 5.5.1, all openings in the roof used for sampling or gauging, except pressure-vacuum valves which shall be set to within ten (10) percent of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal, or lid. The cover, seal, or lid shall at all times be in a closed position, with no visible gaps and be gastight, except when the device or appurtenance is in use.

The following permit condition will be listed on each permit as follows:

- All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623]

Definition of a leak-free condition and a gas leak are specified in Section 3.10 and 3.9 as follows:

- Section 3.9: Gas Leak: a reading in excess of 10,000 ppmv, above background, on a portable hydrocarbon detection instrument that is calibrated with methane in accordance with the test method in Section 6.4.8.
- Section 3.10 Leak-free: a condition without a gas leak (defined in Section 3.9).

However as discussed in the BACT section of this evaluation (District Rule 2201), leaks will be defined as a reading in excess of 100 ppm for valves and connectors or 500 ppmv for pumps and compressor seals.

The following permit condition will be listed on each permit as follows:

- A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 2201 and shall be reported as a deviation. [District Rules 2201 and 4623]

Since the proposed tanks are internal floating roof tank type, requirements from Section 5.5.2.1 are applicable to the proposed internal floating roof tanks.

Pursuant to Section 5.5.2.1.1, each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface.

The following permit condition will be listed on each permit as follows:

- Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iii)]

Pursuant to Section 5.5.2.1.2, each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e., no visible gap) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use.

The following permit condition will be listed on each permit as follows:

- Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iv)]

Pursuant to Section 5.5.2.1.3, automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports.

The following permit condition will be listed on each permit as follows:

- Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR 60.112b(a)(1)(v)]

Pursuant to Section 5.5.2.1.4, rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

The following permit condition will be listed on each permit as follows:

- Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vi)]

Pursuant to Section 5.5.2.1.5, each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable.

The following permit condition will be listed on each permit as follows:

- Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vii)]

Pursuant to Section 5.5.2.1.6, each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable.

The following permit condition will be listed on each permit as follows:

- Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(viii)]

Section 6.1, Administrative Requirements: Inspection of Floating Roof Tanks

Pursuant to Section 6.1.4.1, for newly constructed, repaired, or rebuilt internal floating roof tanks, visually inspect the internal floating roof and its appurtenant parts, fittings, etc., and measure the gaps of the primary seal and/or secondary seal prior to filling the tank. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., the operator shall repair the defects before filling the tank.

The following permit condition will be listed on each permit as follows:

- The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears,

or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR 60.113b(a)(1)]

Pursuant to Section 6.1.4.2, visually inspect, through the manholes, roof hatches, or other openings on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule.

The following permit condition will be listed on each permit as follows:

- The permittee shall visually inspect, through the manholes, roof hatches, or other openings on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR 60.113b(a)(2)]

Pursuant to Section 6.1.4.3, conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months.

The following permit condition will be listed on each permit as follows:

- The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. [District Rule 4623]

Section 6.2, Administrative Requirements: TVP and API Gravity Testing of Stored Organic Liquid in Uncontrolled Fixed Roof Tanks

Since the proposed tanks are internal floating roof tanks, the requirements of Section 6.2 do not apply and no further discussion is required.

Section 6.3, Administrative Requirements: Recordkeeping

Pursuant to Section 6.3.1, an operator whose tanks are subject to the requirements of this rule shall keep an accurate record of each organic liquid stored in each tank, including its storage temperature, TVP, and API gravity.

The following permit condition will be listed on each permit as follows:

- Operator shall keep a record of the liquids stored in this container, the period of storage, the storage temperature, the maximum true vapor pressure (TVP) of that liquid during the respective storage period and API gravity. [District Rule 4623 and 40 CFR 60.116b(c)]

Pursuant to Section 6.3.5, an operator shall submit the reports of the floating roof tank inspections conducted in accordance with the requirements of Section 6.1 to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and shall be made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule.

The following permit condition will be listed on each permit as follows:

- The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Measurements of the gaps between the tank shell and primary and secondary seals. 4) Gas-tight status of the tank and floating roof deck fittings. Records of the gas-tight status shall include the vapor concentration values measured in parts per million by volume (ppmv). 5) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.3, 5.5.2.3.3, 5.5.2.4.2, and 5.5.2.4.3 of Rule 4623. 6) Any corrective actions or repairs performed on the tank in order to comply with rule 4623 and the date(s) such actions were taken. [District Rule 4623 and 40 CFR 60.115b(a)(3)]

Pursuant to Section 6.3.7, an operator shall maintain the records of the external floating roof or internal floating roof landing activities that are performed pursuant to Sections 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. The operator shall keep the records at the facility (or on-site) for a period of five years. The records shall be made available to the APCO upon request.

The following permit conditions will be listed on each permit as follows:

- Permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Sections 5.3.1.3 and 5.4.3. The records shall include information on the true vapor pressure (TVP), API gravity, storage temperature, type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623]

- All records shall be retained on site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and 4623]

Compliance with this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-37-130-2, and S-37-131-2 subject to the permit conditions on the attached draft ATC in **Appendix C**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-37-130-2	3020-05-G	3,108,000 GALLONS	\$382.00
S-37-131-2	3020-05-G	3,108,000 GALLONS	\$382.00

APPENDIXES

- A: DRAFT ATC(S)
- B: CURRENT PTO(S)
- C: PE2 EMISSION CALCULATIONS
- D: BACT GUIDELINE & BACT ANALYSIS
- E: HRA SUMMARY
- F: QUARTERLY NET EMISSIONS CHANGE
- G: EMISSION PROFILE(S)
- H: COMPLIANCE CERTIFICATION
- I: HISTORICAL AND PROJECTED OPERATION DATA

APPENDIX A DRAFT ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-37-130-2

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: KERN OIL & REFINING CO.
MAILING ADDRESS: 7724 E PANAMA LANE
BAKERSFIELD, CA 93307-9210

LOCATION: PANAMA LN & WEEDPATCH HWY
BAKERSFIELD, CA 93307-9210

EQUIPMENT DESCRIPTION:

MODIFICATION OF 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74000); INCREASE TVP LIMIT TO 7.96 PSIA

CONDITIONS

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter: 846 lb., 2nd quarter: 846 lb., 3rd quarter: 846 lb., and fourth quarter: 846 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
2. ERC Certificate Number S-4118-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
4. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-37-130-2 : Apr 21 2014 4:37PM - JONESW : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

5. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
6. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
8. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
9. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
11. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
12. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit
13. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
14. The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
15. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
16. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be leak-free, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit
17. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Rim vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623] Federally Enforceable Through Title V Permit
20. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90% of the opening. The fabric cover must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit
21. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. [District Rule 4623] Federally Enforceable Through Title V Permit
23. Permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
24. Permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Sections 5.3.1.3 and 5.4.3. The records shall include information on the true vapor pressure (TVP), API gravity, storage temperature, type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
25. This tank shall only store, place, or hold organic liquid with a tank vapor pressure (TVP) of less than, or equal to 7.96 psia under all storage conditions. [District Rule 2201] Federally Enforceable Through Title V Permit
26. The total organic liquid throughput for tanks S-37-130 and '131 shall not exceed either of the following: 26,356 barrels per day or 9,620,000 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Combined VOC emission rate from tanks S-37-130 and '131 shall not exceed 20.5 lb/day and 7,466 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Vapor pressure of stored liquids shall be determined as described in section 6.4 of District Rule 4623. [District Rule 4623, 6.2] Federally Enforceable Through Title V Permit
31. Permittee shall submit the records of TVP testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP of the organic liquid, test methods used, and a copy of the test results. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, and TVP. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Daily emissions will be determined based on using monthly throughput data and number of days per month. [District Rule 2520, 9.4] Federally Enforceable Through Title V Permit
34. The tank shall be equipped with a fixed roof with an internal floating type cover equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. [40 CFR 60.112b(a)(1)(ii)] Federally Enforceable Through Title V Permit
35. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal roof shall be floating on the liquid surface except during initial fill and when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five days prior to performing the work. [District Rule 4623, and 40 CFR 60.112b(a)(i)] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

36. Each opening in a non-contact internal floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iii)] Federally Enforceable Through Title V Permit
37. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iv)] Federally Enforceable Through Title V Permit
38. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR 60.112b(a)(1)(v)] Federally Enforceable Through Title V Permit
39. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vi)] Federally Enforceable Through Title V Permit
40. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vii)] Federally Enforceable Through Title V Permit
41. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(viii)] Federally Enforceable Through Title V Permit
42. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix)] Federally Enforceable Through Title V Permit
43. The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR 60.113b(a)(1)] Federally Enforceable Through Title V Permit
44. The permittee shall visually inspect, through the manholes, roof hatches, or other openings on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR 60.113b(a)(2)] Federally Enforceable Through Title V Permit
45. The permittee shall maintain records of all visual inspections required by this permit. Each record shall identify the storage vessel on which the inspection was performed, the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [40 CFR 60.115b(a)(2)] Federally Enforceable Through Title V Permit
46. Operator shall maintain a record showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. The record shall be maintained for the life of the vessel. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit
47. Operator shall keep a record of the liquids stored in this container, the period of storage, the storage temperature, the maximum true vapor pressure (TVP) of that liquid during the respective storage period and API gravity. [District Rule 4623 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit
48. Operator of each storage vessel, either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 0.75 psia or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure normally less than 4.0 psia, shall notify the APCO within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. [40 CFR 60.116b(d)] Federally Enforceable Through Title V Permit

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49. For storage vessels operated above or below ambient temperatures, the operator shall calculate the maximum true vapor pressure based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [40 CFR 60.116b(e)(1)] Federally Enforceable Through Title V Permit
50. Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit
51. Operator shall determine the true vapor pressure of each type of crude oil with a Reid vapor pressure less than 2.0 psia or whose physical properties preclude determination by the recommended method from available data and record if the true vapor pressure is greater than 0.5 psia. [40 CFR 60.116b(e)(2)(ii)] Federally Enforceable Through Title V Permit
52. Operator shall determine the true vapor pressure of each VOL, other than crude oil or refined petroleum products, from standard reference texts, by ASTM Method D2879, or by using an appropriate method approved by EPA. [40 CFR 60.116b(e)(3)] Federally Enforceable Through Title V Permit
53. Operator of a tank storing a waste mixture of indeterminate or variable composition shall determine the highest maximum true vapor pressure for the range of liquid compositions to be stored prior to the initial filling, using methods specified for maximum true vapor pressure in this permit. [40 CFR 60.116b(f)] Federally Enforceable Through Title V Permit
54. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Measurements of the gaps between the tank shell and primary and secondary seals. 4) Leak-free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 5) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.3, 5.5.2.3.3, 5.5.2.4.2, and 5.5.2.4.3 of Rule 4623. 6) Any corrective actions or repairs performed on the tank in order to comply with rule 4623 and the date(s) such actions were taken. [District Rule 4623 and 40 CFR 60.115b(a)(3)] Federally Enforceable Through Title V Permit
55. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually inspect the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4326, Table 5] Federally Enforceable Through Title V Permit
56. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
57. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

58. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
59. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 5 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 5 shall constitute a violation of this rule. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
60. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
61. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
62. Records shall be kept of each inspection performed. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [District Rule 2201] Federally Enforceable Through Title V Permit
63. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-37-131-2

LEGAL OWNER OR OPERATOR: KERN OIL & REFINING CO.
MAILING ADDRESS: 7724 E PANAMA LANE
BAKERSFIELD, CA 93307-9210

LOCATION: PANAMA LN & WEEDPATCH HWY
BAKERSFIELD, CA 93307-9210

EQUIPMENT DESCRIPTION:

MODIFICATION OF 74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74001): INCREASE TVP LIMIT TO 7.96 PSIA

CONDITIONS

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter: 846 lb., 2nd quarter: 846 lb., 3rd quarter: 846 lb., and fourth quarter: 846 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
2. ERC Certificate Number S-4118-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
3. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
4. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Sayed Sadredin, Executive Director APCO

Arnaud Marjolle, Director of Permit Services

S-37-131-2 : Apr 21 2014 4:37PM - JONESW : Joint Inspection NOT Required

5. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
6. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
8. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
9. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
11. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
12. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit
13. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
14. The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
15. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
16. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be leak-free, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit
17. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Rim vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623] Federally Enforceable Through Title V Permit
20. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90% of the opening. The fabric cover must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit
21. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. [District Rule 4623] Federally Enforceable Through Title V Permit
23. Permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
24. Permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Sections 5.3.1.3 and 5.4.3. The records shall include information on the true vapor pressure (TVP), API gravity, storage temperature, type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
25. This tank shall only store, place, or hold organic liquid with a tank vapor pressure (TVP) of less than, or equal to 7.96 psia under all storage conditions. [District Rule 2201] Federally Enforceable Through Title V Permit
26. The total organic liquid throughput for tanks S-37-130 and '131 shall not exceed either of the following: 26,356 barrels per day or 9,620,000 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Combined VOC emission rate from tanks S-37-130 and '131 shall not exceed 20.5 lb/day and 7,466 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Vapor pressure of stored liquids shall be determined as described in section 6.4 of District Rule 4623. [District Rule 4623, 6.2] Federally Enforceable Through Title V Permit
31. Permittee shall submit the records of TVP testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP of the organic liquid, test methods used, and a copy of the test results. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, and TVP. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Daily emissions will be determined based on using monthly throughput data and number of days per month. [District Rule 2520, 9.4] Federally Enforceable Through Title V Permit
34. The tank shall be equipped with a fixed roof with an internal floating type cover equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. [40 CFR 60.112b(a)(1)(ii)] Federally Enforceable Through Title V Permit
35. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal roof shall be floating on the liquid surface except during initial fill and when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five days prior to performing the work. [District Rule 4623, and 40 CFR 60.112b(a)(i)] Federally Enforceable Through Title V Permit

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36. Each opening in a non-contact internal floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iii)] Federally Enforceable Through Title V Permit
37. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iv)] Federally Enforceable Through Title V Permit
38. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR 60.112b(a)(1)(v)] Federally Enforceable Through Title V Permit
39. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vi)] Federally Enforceable Through Title V Permit
40. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vii)] Federally Enforceable Through Title V Permit
41. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(viii)] Federally Enforceable Through Title V Permit
42. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix)] Federally Enforceable Through Title V Permit
43. The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR 60.113b(a)(1)] Federally Enforceable Through Title V Permit
44. The permittee shall visually inspect, through the manholes, roof hatches, or other openings on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR 60.113b(a)(2)] Federally Enforceable Through Title V Permit
45. The permittee shall maintain records of all visual inspections required by this permit. Each record shall identify the storage vessel on which the inspection was performed, the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [40 CFR 60.115b(a)(2)] Federally Enforceable Through Title V Permit
46. Operator shall maintain a record showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. The record shall be maintained for the life of the vessel. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit
47. Operator shall keep a record of the liquids stored in this container, the period of storage, the storage temperature, the maximum true vapor pressure (TVP) of that liquid during the respective storage period and API gravity. [District Rule 4623 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit
48. Operator of each storage vessel, either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 0.75 psia or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure normally less than 4.0 psia, shall notify the APCO within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. [40 CFR 60.116b(d)] Federally Enforceable Through Title V Permit

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49. For storage vessels operated above or below ambient temperatures, the operator shall calculate the maximum true vapor pressure based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [40 CFR 60.116b(e)(1)] Federally Enforceable Through Title V Permit
50. Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit
51. Operator shall determine the true vapor pressure of each type of crude oil with a Reid vapor pressure less than 2.0 psia or whose physical properties preclude determination by the recommended method from available data and record if the true vapor pressure is greater than 0.5 psia. [40 CFR 60.116b(e)(2)(ii)] Federally Enforceable Through Title V Permit
52. Operator shall determine the true vapor pressure of each VOL, other than crude oil or refined petroleum products, from standard reference texts, by ASTM Method D2879, or by using an appropriate method approved by EPA. [40 CFR 60.116b(e)(3)] Federally Enforceable Through Title V Permit
53. Operator of a tank storing a waste mixture of indeterminate or variable composition shall determine the highest maximum true vapor pressure for the range of liquid compositions to be stored prior to the initial filling, using methods specified for maximum true vapor pressure in this permit. [40 CFR 60.116b(f)] Federally Enforceable Through Title V Permit
54. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Measurements of the gaps between the tank shell and primary and secondary seals. 4) Leak-free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 5) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.3, 5.5.2.3.3, 5.5.2.4.2, and 5.5.2.4.3 of Rule 4623. 6) Any corrective actions or repairs performed on the tank in order to comply with rule 4623 and the date(s) such actions were taken. [District Rule 4623 and 40 CFR 60.115b(a)(3)] Federally Enforceable Through Title V Permit
55. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually inspect the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4326, Table 5] Federally Enforceable Through Title V Permit
56. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
57. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit

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58. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
59. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 5 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 5 shall constitute a violation of this rule. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
60. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
61. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 5] Federally Enforceable Through Title V Permit
62. Records shall be kept of each inspection performed. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [District Rule 2201] Federally Enforceable Through Title V Permit
63. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070]

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APPENDIX B
CURRENT PTO(S)

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-37-130-1

EXPIRATION DATE: 08/31/2016

EQUIPMENT DESCRIPTION:

74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74000)

PERMIT UNIT REQUIREMENTS

1. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
2. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
4. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
5. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
6. The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
8. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit
9. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
11. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
12. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be leak-free, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

13. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [District Rule 4623] Federally Enforceable Through Title V Permit
14. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [District Rule 4623] Federally Enforceable Through Title V Permit
15. Rim vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623] Federally Enforceable Through Title V Permit
16. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90% of the opening. The fabric cover must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit
17. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit
18. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
20. Permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Sections 5.3.1.3 and 5.4.3. The records shall include information on the true vapor pressure (TVP), API gravity, storage temperature, type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
21. This tank shall only store, place, or hold organic liquid with a tank vapor pressure (TVP) of less than 4.7 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
22. The total organic liquid throughput for tanks S-37-130 and '131 shall not exceed either of the following: 26,356 barrels per day or 9,620,000 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Combined VOC emission rate from tanks S-37-130 and '131 shall not exceed 15.4 lb/day and 5,210 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Vapor pressure of stored liquids shall be determined as described in section 6.4 of District Rule 4623. [District Rule 4623, 6.2] Federally Enforceable Through Title V Permit
27. Permittee shall submit the records of TVP testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP of the organic liquid, test methods used, and a copy of the test results. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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28. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, and TVP. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Daily emissions will be determined based on using monthly throughput data and number of days per month. [District Rule 2520, 9.4] Federally Enforceable Through Title V Permit
30. The tank shall be equipped with a fixed roof with an internal floating type cover equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. [40 CFR 60.112b(a)(1)(ii)] Federally Enforceable Through Title V Permit
31. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal roof shall be floating on the liquid surface except during initial fill and when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five days prior to performing the work. [District Rule 4623, and 40 CFR 60.112b(a)(i)] Federally Enforceable Through Title V Permit
32. Each opening in a non-contact internal floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iii)] Federally Enforceable Through Title V Permit
33. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iv)] Federally Enforceable Through Title V Permit
34. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR 60.112b(a)(1)(v)] Federally Enforceable Through Title V Permit
35. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vi)] Federally Enforceable Through Title V Permit
36. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vii)] Federally Enforceable Through Title V Permit
37. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(viii)] Federally Enforceable Through Title V Permit
38. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix)] Federally Enforceable Through Title V Permit
39. The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR 60.113b(a)(1)] Federally Enforceable Through Title V Permit

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40. The permittee shall visually inspect, through the manholes, roof hatches, or other openings on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR 60.113b(a)(2)] Federally Enforceable Through Title V Permit
41. The permittee shall maintain records of all visual inspections required by this permit. Each record shall identify the storage vessel on which the inspection was performed, the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [40 CFR 60.115b(a)(2)] Federally Enforceable Through Title V Permit
42. Operator shall maintain a record showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. The record shall be maintained for the life of the vessel. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit
43. Operator shall keep a record of the liquids stored in this container, the period of storage, the storage temperature, the maximum true vapor pressure (TVP) of that liquid during the respective storage period and API gravity. [District Rule 4623 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit
44. Operator of each storage vessel, either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 0.75 psia or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure normally less than 4.0 psia, shall notify the APCO within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. [40CFR 60.116b(d)] Federally Enforceable Through Title V Permit
45. For storage vessels operated above or below ambient temperatures, the operator shall calculate the maximum true vapor pressure based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [40 CFR 60.116b(e)(1)] Federally Enforceable Through Title V Permit
46. Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit
47. Operator shall determine the true vapor pressure of each type of crude oil with a Reid vapor pressure less than 2.0 psia or whose physical properties preclude determination by the recommended method from available data and record if the true vapor pressure is greater than 0.5 psia. [40 CFR 60.116b(e)(2)(ii)] Federally Enforceable Through Title V Permit
48. Operator shall determine the true vapor pressure of each VOL, other than crude oil or refined petroleum products, from standard reference texts, by ASTM Method D2879, or by using an appropriate method approved by EPA. [40 CFR 60.116b(e)(3)] Federally Enforceable Through Title V Permit
49. Operator of a tank storing a waste mixture of indeterminate or variable composition shall determine the highest maximum true vapor pressure for the range of liquid compositions to be stored prior to the initial filling, using methods specified for maximum true vapor pressure in this permit. [40 CFR 60.116b(f)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

50. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Measurements of the gaps between the tank shell and primary and secondary seals. 4) Leak-free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 5) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.3, 5.5.2.3.3, 5.5.2.4.2, and 5.5.2.4.3 of Rule 4623. 6) Any corrective actions or repairs performed on the tank in order to comply with rule 4623 and the date(s) such actions were taken. [District Rule 4623 and 40 CFR 60.115b(a)(3)] Federally Enforceable Through Title V Permit
51. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually inspect the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4326, Table 5]
52. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 5]
53. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 5]
54. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 5]
55. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 5 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 5 shall constitute a violation of this rule. [District Rule 4623, Table 5]
56. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 5]
57. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 5]
58. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-37-131-1

EXPIRATION DATE: 08/31/2016

EQUIPMENT DESCRIPTION:

74,000 BBL INTERNAL FLOATING ROOF ORGANIC LIQUID STORAGE TANK, WELDED CONSTRUCTION WITH METALLIC SHOE PRIMARY SEAL AND WIPER SECONDARY SEAL (TANK #74001)

PERMIT UNIT REQUIREMENTS

1. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
2. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
4. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
5. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
6. The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
8. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit
9. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
11. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit
12. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be leak-free, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

13. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [District Rule 4623] Federally Enforceable Through Title V Permit
14. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [District Rule 4623] Federally Enforceable Through Title V Permit
15. Rim vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623] Federally Enforceable Through Title V Permit
16. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90% of the opening. The fabric cover must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit
17. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623] Federally Enforceable Through Title V Permit
18. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
20. Permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Sections 5.3.1.3 and 5.4.3. The records shall include information on the true vapor pressure (TVP), API gravity, storage temperature, type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
21. This tank shall only store, place, or hold organic liquid with a tank vapor pressure (TVP) of less than 4.7 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
22. The total organic liquid throughput for tanks S-37-130 and '131 shall not exceed either of the following: 26,356 barrels per day or 9,620,000 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Combined VOC emission rate from tanks S-37-130 and '131 shall not exceed 15.4 lb/day and 5,210 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank. [District Rule 2201] Federally Enforceable Through Title V Permit
25. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Vapor pressure of stored liquids shall be determined as described in section 6.4 of District Rule 4623. [District Rule 4623, 6.2] Federally Enforceable Through Title V Permit
27. Permittee shall submit the records of TVP testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP of the organic liquid, test methods used, and a copy of the test results. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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28. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, and TVP. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Daily emissions will be determined based on using monthly throughput data and number of days per month. [District Rule 2520, 9.4] Federally Enforceable Through Title V Permit
30. The tank shall be equipped with a fixed roof with an internal floating type cover equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. [40 CFR 60.112b(a)(1)(ii)] Federally Enforceable Through Title V Permit
31. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal roof shall be floating on the liquid surface except during initial fill and when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five days prior to performing the work. [District Rule 4623, and 40 CFR 60.112b(a)(i)] Federally Enforceable Through Title V Permit
32. Each opening in a non-contact internal floating roof, except for automatic bleeder vents (vacuum breaker vents) and rim space vents, shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iii)] Federally Enforceable Through Title V Permit
33. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR 60.112b(a)(1)(iv)] Federally Enforceable Through Title V Permit
34. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR 60.112b(a)(1)(v)] Federally Enforceable Through Title V Permit
35. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vi)] Federally Enforceable Through Title V Permit
36. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(vii)] Federally Enforceable Through Title V Permit
37. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR 60.112b(a)(1)(viii)] Federally Enforceable Through Title V Permit
38. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix)] Federally Enforceable Through Title V Permit
39. The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR 60.113b(a)(1)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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40. The permittee shall visually inspect, through the manholes, roof hatches, or other openings on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR 60.113b(a)(2)] Federally Enforceable Through Title V Permit
41. The permittee shall maintain records of all visual inspections required by this permit. Each record shall identify the storage vessel on which the inspection was performed, the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [40 CFR 60.115b(a)(2)] Federally Enforceable Through Title V Permit
42. Operator shall maintain a record showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. The record shall be maintained for the life of the vessel. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit
43. Operator shall keep a record of the liquids stored in this container; the period of storage, the storage temperature, the maximum true vapor pressure (TVP) of that liquid during the respective storage period and API gravity. [District Rule 4623 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit
44. Operator of each storage vessel, either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 0.75 psia or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure normally less than 4.0 psia, shall notify the APCO within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. [40CFR 60.116b(d)] Federally Enforceable Through Title V Permit
45. For storage vessels operated above or below ambient temperatures, the operator shall calculate the maximum true vapor pressure based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [40 CFR 60.116b(e)(1)] Federally Enforceable Through Title V Permit
46. Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit
47. Operator shall determine the true vapor pressure of each type of crude oil with a Reid vapor pressure less than 2.0 psia or whose physical properties preclude determination by the recommended method from available data and record if the true vapor pressure is greater than 0.5 psia. [40 CFR 60.116b(e)(2)(ii)] Federally Enforceable Through Title V Permit
48. Operator shall determine the true vapor pressure of each VOL, other than crude oil or refined petroleum products, from standard reference texts, by ASTM Method D2879, or by using an appropriate method approved by EPA. [40 CFR 60.116b(e)(3)] Federally Enforceable Through Title V Permit
49. Operator of a tank storing a waste mixture of indeterminate or variable composition shall determine the highest maximum true vapor pressure for the range of liquid compositions to be stored prior to the initial filling, using methods specified for maximum true vapor pressure in this permit. [40 CFR 60.116b(f)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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50. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Measurements of the gaps between the tank shell and primary and secondary seals. 4) Leak-free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 5) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.3, 5.5.2.3.3, 5.5.2.4.2, and 5.5.2.4.3 of Rule 4623. 6) Any corrective actions or repairs performed on the tank in order to comply with rule 4623 and the date(s) such actions were taken. [District Rule 4623 and 40 CFR 60.115b(a)(3)] Federally Enforceable Through Title V Permit
51. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually inspect the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4326, Table 5]
52. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 5]
53. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 5]
54. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 5]
55. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 5 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 5 shall constitute a violation of this rule. [District Rule 4623, Table 5]
56. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 5]
57. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 5]
58. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

APPENDIX C
PE2 EMISSION CALCULATIONS

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification
User Identification: S-37, 1134365
City: Bakersfield
State: California
Company:
Type of Tank: External Floating Roof Tank
Description:

Tank Dimensions
Diameter (ft): 105.00
Volume (gallons): 3,108,000.00
Turnovers: 130.00

Paint Characteristics
Internal Shell Condition: Light Rust
Shell Color/Shade: White/White
Shell Condition: Good

Roof Characteristics
Type: Double Deck
Fitting Category: Detail

Tank Construction and Rim-Seal System
Construction: Welded
Primary Seal: Mechanical Shoe
Secondary Seal: Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roots	36
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1

Meteorological Data used in Emissions Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.47 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

S-37, 1134365 - External Floating Roof Tank
Bakersfield, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Crude Oil (TVP 7.96)	Jan	58.62	54.46	62.78	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP50 = 7.96 VP60 = 7.96
Crude Oil (TVP 7.96)	Feb	61.48	55.39	66.58	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP60 = 7.96 VP70 = 7.96
Crude Oil (TVP 7.96)	Mar	63.85	57.94	69.77	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP60 = 7.96 VP70 = 7.96
Crude Oil (TVP 7.96)	Apr	66.98	60.01	73.95	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP60 = 7.96 VP70 = 7.96
Crude Oil (TVP 7.96)	May	71.00	63.30	78.70	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP70 = 7.96 VP80 = 7.96
Crude Oil (TVP 7.96)	Jun	74.47	66.32	82.63	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP70 = 7.96 VP80 = 7.96
Crude Oil (TVP 7.96)	Jul	77.01	68.80	85.22	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP70 = 7.96 VP80 = 7.96
Crude Oil (TVP 7.96)	Aug	76.03	68.25	83.81	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP70 = 7.96 VP80 = 7.96
Crude Oil (TVP 7.96)	Sep	72.99	65.93	79.96	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP70 = 7.96 VP80 = 7.96
Crude Oil (TVP 7.96)	Oct	68.33	62.00	74.66	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP60 = 7.96 VP70 = 7.96
Crude Oil (TVP 7.96)	Nov	62.38	57.33	67.44	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP60 = 7.96 VP70 = 7.96
Crude Oil (TVP 7.96)	Dec	58.39	54.32	62.46	65.42	7.9600	N/A	N/A	100.0000			200.00	Option 1: VP50 = 7.96 VP60 = 7.96

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

S-37, 1134365 - External Floating Roof Tank
Bakersfield, California

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Crude Oil (TVP 7.96)	2,698.72	3,680.50	1,186.83	0.00	7,466.05

APPENDIX D
BACT GUIDELINE & BACT ANALYSIS

Best Available Control Technology (BACT) Guideline 7.3.3
Last Update: 10/1/2002

**Petroleum and Petrochemical Production - Floating Roof Organic Liquid
Storage or Processing Tank, = or > 471 bbl Tank capacity, = or > 0.5 psia TVP**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	95% control (Primary metal shoe seal with secondary wiper seal, or equal)	95% Control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal.)	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

This is a Summary Page for this Class of Source. For background information, see Permit Specific BACT Determinations on Details Page.

Top Down BACT Analysis for Volatile Organic Compounds (VOC)

VOC's are emitted from a floating roof tank as a result of standing losses (i.e. evaporation from the rim seals) and withdrawal losses (i.e. residual VOC containing liquids adhering to the wall after the roof is lowered).

Step 1 - Identify All Possible VOC Control Technologies

The District BACT Clearinghouse guideline 7.3.3 lists the following controls:

Achieved-in-Practice

95% Control (primary metal shoe seal with secondary wiper seal, or equal)

Technologically Feasible

95% Control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal)

Alternate Basic Equipment

None identified.

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

There is no difference in control effectiveness between the Achieved in Practice and Technologically Feasible options.

Step 4 - Cost Effectiveness Analysis

No cost effective analysis is necessary because the applicant has proposed the most effective control technology listed for VOC.

Step 5 - Select BACT

Kern Oil will meet BACT for tanks S-37-130-2 and '131-2 by the use of a primary metal shoe seal with secondary wiper seal.

APPENDIX E HRA SUMMARY

San Joaquin Valley Air Pollution Control District Risk Management Review

To: William Jones – Permit Services
From: Kyle Melching – Technical Services
Date: March 4, 2014
Facility Name: Kern Oil & Refining Company
Location: 7724 E. Panama Lane, Bakersfield
Application #(s): S-37-130-2 & 131-2
Project #: S-1134365

A. RMR SUMMARY

RMR Summary			
Categories	Two 74,000 BBL Organic Liquid Storage Tanks (Units 130-2 & 131-2)	Project Totals	Facility Totals
Prioritization Score	0.12	0.12	>1
Acute Hazard Index	0.00	0.00	0.75
Chronic Hazard Index	0.00	0.00	0.1
Maximum Individual Cancer Risk	9.07E-09	9.07E-09	7.02E-06
T-BACT Required?	No		
Special Permit Conditions?	No		

I. Project Description

Technical Services received a request on February 28, 2014, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for the modification of two internal floating roof, 74,000 BBL organic liquid storage tanks. Kern Oil is proposing to increase the allowable TVP to 7.93 psia for tanks S-37-130 and 131.

II. Analysis

Toxic emissions from the project were calculated using a District approved spreadsheet for Oilfield Equipment Fugitive - District, along with increased VOC fugitive emission rates calculated and supplied by the processing engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the project was less than 1.0 (see RMR Summary Table); however, the facility's combined prioritization scores totaled to greater than one. Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with area source parameters outlined below and concatenated 5-year meteorological data from Bakersfield to determine maximum dispersion factors at the nearest

residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the review:

Analysis Parameters (Units 130-2 & 131-2) (Each)			
Source Type	Circle Area	Closest Receptor (m)	46
Average Release Height (m)	14.63	Type of Receptor	Residence
Average Tank Radius (m)	16.4	Location Type	Rural
VOC Emissions (lb/hr)	0.035	VOC Emissions (lb/yr)	278.5

An AAQA was requested by the processing engineer; however, AAQA's only looks at criteria pollutants NO_x, SO_x, CO, PM₁₀, PM_{2.5}. This modification results in an increase in VOC's. Currently there are no AAQA standards for VOC's; therefore, an AAQA is not required.

III. Conclusions

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is **9.07E-09**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. HARP Risk Report
- E. Facility Summary

APPENDIX F
QUARTERLY NET EMISSIONS CHANGE

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

$QNEC = PE2 - PE1$, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb./qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb./qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb./qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

S-37-130-2

$$\begin{aligned} PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 7,466 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 1,866.5 \text{ lb. VOC/qtr.} \end{aligned}$$

$$\begin{aligned} PE1_{\text{quarterly}} &= PE1_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 5,210 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 1,303 \text{ lb. VOC}_0/\text{qtr.} \end{aligned}$$

Quarterly NEC [QNEC]			
	PE2 (lb./qtr.)	PE1 (lb./qtr.)	QNEC (lb./qtr.)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	1,867	1,303	564

S-37-131-2

$$\begin{aligned} PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 7,466 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 1,866.5 \text{ lb. VOC/qtr.} \end{aligned}$$

$$\begin{aligned} PE1_{\text{quarterly}} &= PE1_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 5,210 \text{ lb./year} \div 4 \text{ qtr./year} \\ &= 1,303 \text{ lb. VOC}_0/\text{qtr.} \end{aligned}$$

Quarterly NEC [QNEC]			
	PE2 (lb./qtr.)	PE1 (lb./qtr.)	QNEC (lb./qtr.)
NO _x	0	0	0

Quarterly NEC [QNEC]			
	PE2 (lb./qtr.)	PE1 (lb./qtr.)	QNEC (lb./qtr.)
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	1,442	1,303	139

APPENDIX G
EMISSION PROFILE(S)

Permit #: S-37-130-2	Last Updated
Facility: KERN OIL & REFINING CO.	04/14/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	7466.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	20.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	564.0
Q2:	0.0	0.0	0.0	0.0	564.0
Q3:	0.0	0.0	0.0	0.0	564.0
Q4:	0.0	0.0	0.0	0.0	564.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					846.0
Q2:					846.0
Q3:					846.0
Q4:					846.0

Permit #: S-37-131-2	Last Updated
Facility: KERN OIL & REFINING CO.	04/14/2014 JONESW

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	7466.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	20.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	564.0
Q2:	0.0	0.0	0.0	0.0	564.0
Q3:	0.0	0.0	0.0	0.0	564.0
Q4:	0.0	0.0	0.0	0.0	564.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					846.0
Q2:					846.0
Q3:					846.0
Q4:					846.0

APPENDIX H
COMPLIANCE CERTIFICATION

**San Joaquin Valley
Unified Air Pollution Control District**

RECEIVED
NOV 18 2013
SJVAPCD
Southern Region

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☒ SIGNIFICANT PERMIT MODIFICATION ☐ ADMINISTRATIVE
☐ MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Kern Oil and Refining Co.	FACILITY ID: S- 37
1. Type of Organization: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility	
2. Owner's Name: Kern Oil & Refining Co.	
3. Agent to the Owner: n/a	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- ☒ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- ☒ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Bruce Cogswell
Signature of Responsible Official

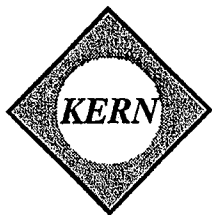
11/13/13
Date

Bruce Cogswell

Name of Responsible Official (please print)

Vice President - Manufacturing

Title of Responsible Official (please print)



Kern Oil & Refining Co.

7724 E. PANAMA LANE
BAKERSFIELD, CALIFORNIA 93307-9210
(661) 845-0761 FAX (661) 845-0330

RECEIVED

NOV 18 2013

SJVAPCO
Southern Region

November 15, 2013

Mr. Leonard Scandura
SJVAPCD
34946 Flyover Court
Bakersfield, CA 93308

**Subject: Kern Oil & Refining Co. – Compliance Certification
Permit Modification for S-37-130-1 (Tank 74000) and S-37-131-1 (Tank 74001)**

Dear Mr. Scandura:

District Rule 2201, Section 4.15.2, requires that an owner or operator proposing a Federal Major Modification certify that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California are either in compliance or on a schedule for compliance with all applicable emission limitations and standards. This letter certifies compliance for Kern Oil & Refining Co.

Kern Oil & Refining Co. (Kern) is the sole owner and operator of a petroleum refining facility, ID S-37, located at 7724 E. Panama Lane in Bakersfield, CA. Kern has Notices of Violation outstanding; however all issues associated with these are currently being addressed.

This certification is made on information and belief and is based upon a review of Kern's major source facility by employees who have responsibility for compliance and environmental requirements. This certification is as of the date of its execution.

If you have any questions, please contact Melinda Hicks, EHS Manager, at (661) 845-0761.

Sincerely,

Bruce Cogswell
VP Manufacturing

cc: Melinda Hicks
Angelica Jackson

**APPENDIX I:
HISTORICAL AND
PROJECTED OPERATION DATA**

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

2011 BAE
@ RVP 5 psia

Identification

User Identification: Tank 74000
City: Bakersfield
State: California
Company: Kern Oil & Refining Co.
Type of Tank: Internal Floating Roof Tank
Description: 74,000-bbl Internal Floating Roof Tank

Tank Dimensions

Diameter (ft): 105.00
Volume (gallons): 3,108,000.00
Turnovers: 7.43
Self Supp. Roof? (y/n): Y
No. of Columns: 0.00
Eff. Col. Diam. (ft): 0.00

Paint Characteristics

Internal Shell Condition: Light Rust
Shell Color/Shade: White/White
Shell Condition: Good
Roof Color/Shade: White/White
Roof Condition: Good

Rim-Seal System

Primary Seal: Mechanical Shoe
Secondary Seal: Rim-mounted

Deck Characteristics

Deck Fitting Category: Detail
Deck Type: Welded

Deck Fitting/Status**Quantity**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	34
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.47 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Tank 74000 - Internal Floating Roof Tank
Bakersfield, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.		Avg.	Min.	Max.					
Crude oil (RVP 5)	Jan	58.62	54.48	62.78	65.42	2.8008	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Feb	61.49	56.39	66.58	65.42	2.0628	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Mar	63.85	57.94	69.77	65.42	3.1022	N/A	N/A	50.0000			287.00	Option 4: RVP=5
Crude oil (RVP 5)	Apr	66.06	60.01	73.95	65.42	3.2945	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	May	71.00	63.10	78.70	65.42	3.5556	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Jun	74.47	66.32	82.83	65.42	3.7947	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Jul	77.01	68.80	85.22	65.42	3.8772	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Aug	78.03	68.25	83.81	65.42	3.9057	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Sep	72.66	65.93	79.98	65.42	3.6087	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Oct	68.33	62.00	74.66	65.42	3.3884	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Nov	62.38	57.33	67.44	65.42	3.0151	N/A	N/A	50.0000			287.00	Option 4: RVP=5
Crude oil (RVP 5)	Dec	50.39	54.32	62.48	65.42	2.7877	N/A	N/A	50.0000			207.00	Option 4: RVP=5

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Tank 74000 - Internal Floating Roof Tank
Bakersfield, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	5.6411	6.0070	6.3256	6.7718	7.3895	7.9677	8.4176	8.2408	7.7100	6.9734	6.1262	5.6119
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ^{0.75}):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.0537	0.0572	0.0602	0.0645	0.0704	0.0759	0.0802	0.0785	0.0734	0.0664	0.0583	0.0534
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.8008	2.9628	3.1022	3.2945	3.5558	3.7947	3.9772	3.9057	3.8887	3.3804	3.0151	2.7877
Tank Diameter (ft):	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.8000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Product Factor:	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Withdrawal Losses (lb):	17.5375	17.5375	17.5375	17.5375	17.5375	17.5375	17.5375	17.5375	17.5375	17.5375	17.5375	17.5375
Number of Columns:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Effective Column Diameter (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Net Throughput (gal/min):	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660	1,925,240.6660
Shell Circulation Factor (ft ² /1000 sqft):	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
Average Organic Liquid Density (lb/gal):	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000
Tank Diameter (ft):	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000
Deck Fitting Losses (lb):	28.8500	30.7217	32.3519	34.6329	37.7922	40.7493	43.0498	42.1450	39.4311	35.8640	31.3311	28.7008
Value of Vapor Pressure Function:	0.0537	0.0572	0.0602	0.0645	0.0704	0.0759	0.0802	0.0785	0.0734	0.0664	0.0583	0.0534
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Product Factor:	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Tot. Roof Fitting Loss Fact (lb-mole/yr):	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Product Factor:	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Total Losses (lb):	52.0285	54.2682	56.2152	58.9422	62.7193	66.2546	68.0048	67.9232	64.0785	60.1749	54.9948	51.8501

Roof Fitting/Status	Quantity	KFa (lb-mole/yr)	Roof Fitting Loss Factors KFb (lb-mole/yr (mph) ^{0.75})	m	Losses (lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	2.1142
Automatic Gauge Float Valve/Bolted Cover, Gasketed	1	2.80	0.00	0.00	3.8998
Roof Leg or Hanger Wall/Adjustable	34	7.90	0.00	0.00	354.9185
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1	43.00	0.00	0.00	56.8187
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.20	1.20	0.94	8.1925

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank 74000 - Internal Floating Roof Tank
Bakersfield, California

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Crude oil (RVP 5)	83.18	210.45	425.42	0.00	719.05

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

2012 BAE
@ RVP Spsia

Identification

User Identification: Tank 74000
City: Bakersfield
State: California
Company: Kern Oil & Refining Co.
Type of Tank: Internal Floating Roof Tank
Description: 74,000-bbl Internal Floating Roof Tank

Tank Dimensions

Diameter (ft): 105.00
Volume (gallons): 3,108,000.00
Turnovers: 16.25
Self Supp. Roof? (y/n): Y
No. of Columns: 0.00
Eff. Col. Diam. (ft): 0.00

Paint Characteristics

Internal Shell Condition: Light Rust
Shell Color/Shade: White/White
Shell Condition: Good
Roof Color/Shade: White/White
Roof Condition: Good

Rim-Seal System

Primary Seal: Mechanical Shoe
Secondary Seal: Rim-mounted

Deck Characteristics

Deck Fitting Category: Detail
Deck Type: Welded

Deck Fitting/Status**Quantity**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	34
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meteorological Data used in Emissions Calculations: Bakersfield, California (Avg Atmospheric Pressure = 14.47 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Tank 74000 - Internal Floating Roof Tank
Bakersfield, California

Mixture/Component	Month	Daily Liquid Surf Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract	Vapor Mass Fract	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min	Max		Avg	Min	Max					
Crude oil (RVP 5)	Jan	58.82	54.46	62.78	65.42	2.8008	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Feb	61.49	56.39	66.58	65.42	2.9628	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Mar	63.85	57.94	69.77	65.42	3.1022	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Apr	66.98	60.01	73.95	65.42	3.2945	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	May	71.00	63.70	76.70	65.42	3.5556	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Jun	74.47	66.32	82.63	65.42	3.7947	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Jul	77.01	68.80	85.22	65.42	3.9772	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Aug	78.03	68.25	83.81	65.42	3.9057	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Sep	72.96	65.93	79.98	65.42	3.6887	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Oct	68.33	62.00	74.66	65.42	3.3804	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Nov	62.38	57.33	67.44	65.42	3.0151	N/A	N/A	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Dec	58.39	54.32	62.48	65.42	2.7877	N/A	N/A	50.0000			207.00	Option 4: RVP=5

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Tank 74000 - Internal Floating Roof Tank
Bakersfield, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	5.6411	6.0070	6.3258	6.7718	7.3895	7.9877	8.4176	8.2406	7.7100	6.9734	6.1262	5.6119
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph) ^{0.75}):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.0537	0.0572	0.0602	0.0645	0.0704	0.0759	0.0802	0.0785	0.0734	0.0664	0.0583	0.0534
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.8006	2.9628	3.1022	3.2945	3.5556	3.7947	3.9772	3.9057	3.6887	3.3804	3.0151	2.7877
Tank Diameter (ft):	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Product Factor:	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Withdrawal Losses (lb):	38.1323	38.3323	38.3323	38.3323	38.1323	38.1323	38.1323	38.3323	38.3323	38.3323	38.3323	38.3323
Number of Columns:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Effective Column Diameter (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Net Throughput (gal/mo.):	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000	4,208,085.5000
Shell Clingage Factor (bb/1000 sq ft):	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
Average Organic Liquid Density (lb/gal):	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000
Tank Diameter (ft):	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000
Deck Fitting Losses (lb):	28.8500	30.7217	32.3519	34.8329	37.7022	40.7493	43.0498	42.1450	39.4311	35.6640	31.3311	28.7008
Value of Vapor Pressure Function:	0.0537	0.0572	0.0602	0.0645	0.0704	0.0759	0.0802	0.0785	0.0734	0.0664	0.0583	0.0534
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Product Factor:	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000	322.2000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(lb/sq ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000	105.0000
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Product Factor:	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Total Losses (lb):	72.8234	75.0610	77.0100	79.7371	83.5141	87.0494	89.7997	88.7180	85.4734	80.9697	75.7897	72.6450
Roof Fitting/Status	Quantity											
	Roof Fitting Loss Factors											
	KFa(lb-mole/yr)											
	KFb(lb-mole/(yr mph ^{0.75}))											
	m											
	Losses(lb)											
Access Hatch (24-in. Diam./Bolted Cover, Gasketed)	1					1.80		0.00		0.00		2.1142
Automatic Gauge Float Well/Bolted Cover, Gasketed	1					2.80		0.00		0.00		3.6998
Roof Leg or Hanger Well/Adjustable	34					7.90		0.00		0.00		354.8185
Sample Pipe or Well (24-in. Diam./Slotted Pipe-Sliding Cover, Gask.	1					43.00		0.00		0.00		56.8187
Vacuum Breaker (10-in. Diam./Weighted Mech. Activation, Gask.	1					6.20		1.20		0.94		8.1925

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank 74000 - Internal Floating Roof Tank
Bakersfield, California

Components	Losses(lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Filling Loss	Deck Seam Loss	
Crude oil (RVP 5)	83.18	459.99	425.42	0.00	968.59